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# REPORT

of the

# STUDY GROUP

on

# HOSPITALS

(FEBRUARY 1968)

GOVERNMENT OF INDIA
MINISTRY OF HEALTH, FAMILY PLANNING
AND URBAN DEVELOPMENT
NEW DELHI

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# PART I—REPORT

## CHAPTER I

## CONSTITUTION OF THE STUDY GROUP AND ITS TERMS OF REFERENCE, PROCEDURE AND METHODS

1.01. *Appointment and Terms of Reference*—Rapid industrialisation of the country and continuous growth of population having brought in their wake a number of medical and health problems, in August 1966, the Government of India in the Ministry of Health and Family Planning set up* the Study Group on Hospitals to undertake "a study of working of different classes of hospitals in the country with a view to improving the standards of medical care and developing sound guidelines for the future expansion of the hospital services."

1.02. For the purposes of this study the Group was directed to "take into consideration the findings of previous committees that have examined different aspects of hospital administration, sift the material already available in those reports and demarcate the field that needs to be further" strengthened. Its recommendations were to be made "with due regard to the financial position and the known insufficiency of manpower." More specifically, the recommendations of the Group were invited on the following—

(i) The future pattern of development of hospital services at the regional, district and peripheral levels in terms of size and facilities to be provided; the requirements of specialist hospital facilities such as, infectious diseases, tuberculosis, mental diseases, paediatrics, chronic and convalescent homes; and phased programme of development to achieve the recommended targets;

(ii) Measures required for integrated development of hospital services so that peripheral units like health centres, dispensaries, M.C.H. Centres work in close coordination with the hospital, which acts as the referral centre; provision of specialist coverage for the peripheral units from the referral hospital; arrangements providing for regional coverage of the peripheral units and referral hospitals by the teaching hospital in the region so that two or three districts have the medical college as a final referral centre;

(iii) Appropriate standards of staffing, drugs, diet linen, etc., for hospitals of various sizes;

(iv) Provision of hospital pharmacies, central sterilisation facilities and other services like proper kitchens, mortuaries, medical records system, sanitation and security arrangements etc.;

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**Vide* letter No. 27-57/64-H dated 27th August, 1966, a copy of which is placed at Appendix I.

(v) Measures for the augmentation of resources available for medical care facilities, including those of pay clinics, system of graded charges for services rendered, health cess, etc.;

(vi) Facilities for Family Planning;

(vii) Any other matter relevant to the objects and purpose of the study.

1.03. Subsequently in their resolution No. 22-57/64-H Vol. II, dated 26th July, 1967, the Ministry of Health and Family Planning made the following addition to the Group's terms of reference:—

> "Undertake a review of the working of the Central Government Health Scheme, to evaluate its progress and performance and to make suggestions for improvements and reduction in Government liability."

1.04. *Composition*—The composition of the Study Group at the time of its initial constitution was:

(1) Shri Ajit Prasad Jain, Ex-Governor, Kerala, *Chairman.*

(2) Dr. M. M. S. Siddhu, Member of Parliament, *Member.*

(3) Dr. C. B. Singh, Member of Parliament, *Member.*

(4) Dr. R. V. Sathe, Vice-Chancellor, Bombay University, *Member.*

(5) Shri Gian Prakash, Joint Secretary, Ministry of Health and Family Planning, New Delhi, *Member.*

(6) Col. R. D. Ayyar, Medical Superintendent, Safdarjang Hospital, New Delhi, *Member.*

(7) Dr. C. L. Mukherjee, Director of Health Services West Bengal, Calcutta, *Member.*

(8) Col. R. R. Rao, Assistant Director General of Health Services, Directorate General of Health Services, New Delhi, *Member-Secretary.*

1.05. Consequent on the reversion of Col. R. R. Rao to the Army Medical Corps, Dr. P. Diesh, Deputy Director General of Health Services (CGHS) was appointed* as Member-Secretary of the Study Group. He took charge of the work of Member-Secretary from 1st July, 1967, in addition to his own duties as Deputy Director General of Health Services (CGHS) in the Directorate General of Health Services. Dr. R. V. Sathe resigned in August 1967, because of his inability to devote sufficient time to the work of the Group. The gap was filled by the co-option of Dr. H. Shamasastry, Director of Health Services, Mysore State, Bangalore.

1.06. The Group at the time of the submission of this report consisted of:—

(1) Shri Ajit Prasad Jain, Ex-Governor, Kerala, *Chairman.*

(2) Dr. M. M. S. Siddhu, Member of Parliament, *Member.*

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******Vide* **Ministry of Health & Family Planning letter No. 10-16/67-H, dated 13th May 1967—Appendix II.**

(3) Dr. C. B. Singh, Ex-Member of Parliament, *Member.*

(4) Shri Gian Prakash, Joint Secretary, Ministry of Health, Family Planning and Urban Development, New Delhi, *Member.*

(5) Col. R. D. Ayyar, Director General of Health Services, New Delhi, *Member.*

(6) Dr. H. Shamasastry, Director of Health Services, Mysore State, Bangalore, *Member.*

(7) Dr. C. L. Mukherjee, Director of Health Services, West Bengal, Calcutta, *Member.*

(8) Dr. P. Diesh, Deputy Director General (Central Government Health Scheme), Directorate General of Health Services, New Delhi, *Member-Secretary.*

1.07. *Procedures and Methods*—At its first meeting[1] held in New Delhi on 12th September, 1966, the Study Group decided to visit[2] some of the States, so that the members could acquire a first-hand knowledge of the working of the hospitals and the condition of health services in the country.

1.08. To elicit information about the state of medical and health services, a detailed questionnaire[3] was framed and sent to the State Governments. The information received in response to the questionnaire was processed and tabulated for convenience of reference and use by the Study Group. The basic information thus compiled was supplemented by the direct observations of the Study Group during its tour of the country. In the States the Study Group co-opted the concerned Director of Health Services with their work.

1.09. Information was also collected from the non-official sources. For instance, the Study Group invited experts[4] and representatives belonging to the W.H.O. and various All-India Medical associations namely, the Medical Council of India, Indian Medical Association, Directorate General of Health Services etc. to give evidence. It also made a thorough scrutiny of the memoranda and other materials received from prominent institutions and individuals in the field of health and medicine.

1.10. The Group had to work under certain handicaps. It was found that no much material has been collected on the different problems concerning hospital administration. The medical colleges and the Directorates of Health Services in different States have also not made any comprehensive studies of the problems. The Group had neither the funds nor time to undertake detailed studies and had to base its conclusions on whatever data could be gathered from different sources.

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[1] Details about the meetings held can be seen at Appendix III.

[2] Details regarding the visits of the study Group to various States and institutions placed in Appendix IV.

[3] A copy of the questionnaire placed at Appendix V.

[4] Summary of discussions held with experts given in Appendix VI.

1.11. *Acknowledgements*—The Group is thankful to different State Governments for making arrangements for the visits of the members of the Group to their hospitals etc. The Group must also express their thanks for the cooperation and all the relevant information so willingly supplied by the Directors of Health Services in different States. We are also grateful to those who took the trouble of appearing before us as witness and gave us their valuable advice.

1.12. In the end of the Group is happy to place on record its high sense of appreciation and deep thanks for Dr. P. Diesh, who besides discharging his normal duties as the Deputy Director General (C.G.H.S.), carried the heavy burden of the Member-Secretary of the Group. At a later time Dr. Diesh was also appointed as the Member-Secretary of another Committee, which was entrusted with the allied task of examining the working of Government owned hospitals at Delhi, which made his heavy task heavier. The Group is grateful to Shri S. Dayal of the Ministry of Information and Broadcasting whose services were especially lent to the Group for drafting the Report. The Group thanks Shri N. K. Bhatnagar, Senior Research Officer, who worked assiduously in preparing background papers, analysing the data received and helping in drafting the Report. Thanks are also due to other members of the staff, who had to work very hard in connection with the working of the Group.

## CHAPTER II

## HISTORICAL BACKGROUND

2.01. Under the Constitution the responsibility for public health, sanitation, providing hospitals and dispensaries devolves on the State Governments. The Union Government comes into the picture only when funds have to be allocated under the Plan for centrally-aided and national programmes.

2.02. The Directive Principles of State Policy call upon the State to secure public assistance in cases of sickness for the citizens, 'within the limits of its economic capacity and development'. The State in this context means the State Government, and its responsibility is limited to the extent of its economic resources. Any health plan must, therefore, in fact and principle, be related to the availability of funds. It can, therefore, be inferred that the responsibility for giving medical relief is not wholly that of the State and in appropriate circumstances the recipient of the relief can be made to share the cost.

2.03. In India, as all over the world, relief against sickness, is made available to patients mostly through hospitals and dispensaries. Often, patients seek admission to these institutions, when they are in a serious condition and timely availability of equipment and skill makes all the difference between life and death. Hospitals, in fact, are homes for the patients, and both the hospital authorities and the Government have to create conditions as will make them feel confident that their care and treatment is a reality and not merely an accepted ideal. Building, equipment and skill are no doubt of high importance for curative services, but humane and kindly treatment, the manner of reception and the provision of welfare facilities are no less so. The task of the hospitals is by no means an easy one. They serve the community day and night. Moreover, each patient has his own special requirements depending on his social background and personality traits and needs individual attention. Disparities in wealth and living standards among the people create problems for hospitals.

2.04. The growth of hospitals and dispensaries has not been uniform all over India. In some parts of the country, particularly those that are fortunate to have one or more medical colleges, the advance has been rapid enough. In others, especially those with inadequate communications and sparse populations, such as the Bastar District of Madhya Pradesh, the development has lagged behind. A study instituted by the Group to assess the progress and development of the health services in different districts of Uttar Pradesh and Bihar has indicated that the progress made in different districts and regions under the successive Plans has accentuated rather than reduced the disparities in the standards of health services. For instance, the number of beds per thousand of population for the Kanpur district went up from 0.42 in 1955 to 0.94 in 1965, whereas it remained stationary at the level of 0.18 for the Mainpuri district. Similarly, for the Patna district the corresponding figure rose from 0.13 in 1955 to 0.63 in 1965, while in Muzaffarpur it increased from 0.08 to only 0.12 during the same period.

2.05. The first serious attempt to work out an integrated system of the health services in India was made in the year 1943, when the Government of India appointed the Health Survey and Development Committee with Sir Joseph Bhore as Chairman (hereafter referred to as the Bhore Committee). This Committee submitted its report in 1946. The report is a landmark in the history of our medical services. It made a survey of the conditions of health and health organisations in what was then known as the British India and recommendations for the future development of health activities. The Committee was of the view that the medical relief facilities available in the country were extremely inadequate both in quantity and in quality. This state of affairs, according to the Committee, had resulted from the establishment of institutions without making provision for adequate and properly qualified staff, equipment and maintenance arrangements. The recommendations of the Bhore Committee took the form of short-term and long-term plans, based on an integrated system of curative and preventive services manned by a whole-time salaried staff. The recommendations were rather ambitious. To give only one instance, the Committee had recommended that the country should have two beds per one thousand of population under the short-term plan by 1961 and 5.6 beds under the long-term plan by 1976. The Committee left it to the Government to decide whether the medical services should be provided free to all citizens under a system of payment through insurance or by some other method. A summary of the recommendations of the Bhore Committee is given in Appendix VII.

2.06. Since the publication of the Bhore Committee report some important events have occurred both within the country and abroad, which made a profound impact on the problems of administration, including those connected with health and medical relief. Of these, the most important undoubtedly was the attainment of independence on 15th August, 1947, and thereafter the merger of the princely States with the rest of India, which eliminated the administrative disparities that had existed at the time of the Bhore Committee Report. The Indian territory now became a vast continuous spread suited for an integrated approach.

2.07. Under the Government of India Act, 1935, the responsibility for public health and allied subjects devolved on the State (Provincial) Governments. This arrangement continued undisturbed under the Indian Independence Act and, finally, the new Constitution, too adopted this pattern of responsibility.

2.08. However, to ensure a co-ordinated approach to the problems of health and medical care, the Central Council of Health, with the Union Minister of Health as its Chairman and the State Health Ministers as its members, was set up by the President under Article 263 of the Constitution in August, 1952. It was required to

(a) consider and recommend broad lines of policy in regard to matters concerning health in all its aspects, such as the provision of remedial and preventive care, environmental hygiene, nutrition, health education and the promotion of facilities for training and research;

(b) to make proposals for legislation in fields of activity relating to medical and public health matters, laying down the pattern of development for the country as a whole;

(c) to examine the whole field of possible co-operation on wide basis in regard to inter-state quarantine during times of festivals, outbreaks of epidemic diseases and serious calamities such as earthquakes and famines and draw up a common programme of action;

(d) to make recommendations to the Central Government regarding distribution of available grants-in-aid for Health purposes to the States and to review periodically the work accomplished in different areas through the utilisation of these grants-in-aid; and

(e) to establish any organisation or organisations invested with appropriate functions for promoting and maintaining co-operation between the Central and State Health Administrations.

2.09. The Council met for the first time at Hyderabad in 1953 and has since been meeting at different places once a year, or oftener, when necessary, to ensure a co-ordinated approach to various health programmes and policies.

2.10. The establishment of the Planning Commission in 1950 and the acceptance of the concept of planned development for India as a whole was another epoch-making event. The country has already completed three Five Year Plans and two annual Plans, and is engaged in drafting the Fourth Plan. A summary of the outlay in three Plans along with the broad objectives and targets is given in Appendix VIII. Its perusal would show that the emphasis in health planning shifted from curative to preventive measures. (i.e. control of communicable diseases) from the First to the Second Plan and to family planning during the Third Plan. Although the Plan Outlay for 'health' increased from Rs. 140 crores in the First Plan to Rs. 225 crores in the Second Plan and to Rs. 342 crores in the Third Plan, the percentage of outlay to the total has decreased; the figures being 5.9 per cent, 4.9 per cent and 4.2 per cent for the First, Second and Third Plan respectively.

2.11. Prior to the advent of the Third Plan, the Government of India appointed another committee called the Health Survey and Planning Committee (popularly known as the Mudaliar Committee and hereafter referred to as such). It was asked to review the progress made in the field of medical relief and public health since the submission of the Bhore Committee's Report and to formulate guidelines and proposals for inclusion in the Third and subsequent Plans. By the time the Committee submitted its report, towards the end of 1961, the Third Plan had already been formulated and as such, its recommendations could not form the basis of the proposals included in that Plan. A summary of the recommendations of the Mudaliar Committee is given in Appendix IX.

2.12. Both the Bhore and Mudaliar Committee went into the problems of public health in great depth and over a wide area, and their recommendations were meant to serve as guide-lines for the development of health services, both curative and preventive. The Group, however, feels duty-bound to point out that the recommendations of the two Committees were not related to the availability of the financial resources of the country. Although the proposals of the Mudaliar Committee were modest as compared to those of the Bhore Committee, owing to the paucity of resources the results achieved were nowhere near the prescribed targets. To quote only one instance, the Bhore Committee had recommended that a district hospital should have a minimum of 500 beds under the short-term plan and 2,500 beds under the long-term plan, and the Mudaliar Committee recommended 300—500 beds for a district hospital, but even today only 125 district hospitals (excluding the teaching hospitals) have 200 beds or more and the remaining 210 have less than 200.

2.13. The terms of reference of the Bhore and Mudaliar Committees were much wider, almost encompassing the entire field of medical relief and public health. They made recommendations on all aspects of health and medical care but neither of these specifically dealt with specialised services and facilities such as central sterilisation, diet and kitchen, system of stocking and issue of drugs, medical records, mortuaries, etc. that are so important for the efficient management of hospitals. It was against this background that the Study Group on Hospitals was set up by the Government of India in 1966. It was required to undertake a study of the working of different classes of hospitals, with an eye to improving the standards of medical care and developing sound guide-lines for the future expansion of the hospital services. Another major task entrusted to the Group was to suggest measures for the augmentation of resources available for these services. In the same context the Group was asked to review the working of the Central Government Health Scheme, to evaluate its progress and performance and to make suggestions for its improvement and for reduction in the Government's liability. The Group was also charged with the work of examining the existing facilities for family planning in as far as these related to medical institutions and to make appropriate recommendation.

2.14. The Group has approached its task within the confines of its terms of reference and keeping in view broadly the availability of recources over the next few years. Conflicts with China in 1962, with Pakistan in 1965 and adverse climatic factors over a period of several years have affected the country's economy and interrupted the continuity of planning. As things stand at present the Group is unable to precisely visualise the availability of resources in the years to come and feels that it would hardly be proper to make recommendations covering a long span of time. Thus most of the recommendations of the Group are limited in terms of time of eight to ten years and only such recommendations have been made as can be implemented without stretching the financial resources too much.

## CHAPTER III

## OPERATIONAL HEALTH SERVICES

3.01. As already mentioned in Chapter II, medical and health services and the institutions, which provide them to the people, are the responsibility of the State Governments. In respect of these services, the Central Government ensures co-operation and co-ordination among the States through the Central Council of Health, and the Planning Commission.

3.02. In addition, the Union Government undertakes a number of other responsibilities in the field of health. These include allocation of funds among the States for national health programmes like the National Malaria Eradication Programme, Smallpox Eradication Programme, Trachoma Control Programme, Filaria Control Programme, and T.B. Control Programme. It provides financial support for research and development in the indigenous systems of medicine. It deals with a number of important subjects as post-graduate medical education, promotion of special studies in medicine and nutrition, port health quarantine (sea and air), participation in international conference and India's relations with international organisations such as the WHO and the UNICEF. It organises research through the agency of the Indian Council of Medical Research and provides grants for research projects. It also deals with such important subjects as Drugs Control Prevention of Food Adulteration and Water Supply

Schemes. The most important responsibility which the Union Government has recently taken upon itself relates to the National Programme of Family Planning, including training of personnel, supply of equipment to the States, motivational publicity through media of mass communication and guidance on broad matters of policy.

3.03. In taking stock of the progress made in the health services, we have to go back to the findings of the Bhore Committee in 1946. At that time the country had 7,400 medical institutions (hospitals and dispensaries) and 1,13,000 beds. A medical institution, on an average served the needs of a population of 40,000 and the bed population ratio was 0.24 for a population of 1,000. The hospitals and dispensaries were grossly understaffed. There was no rural medical service worth the name. Special hospitals were too few and inadequately equipped with beds. Medical relief by voluntary agency did not amount to much, only 7.6 per cent of the hospitals being run by these agencies. There were only 47,524 doctors and 7,000 nurses in the country. This works out to one doctor for 6,300 and one nurse for every 43,000 people. There was one health visitor for 4,00,000 and one midwife for 60,000 population. There were wide variations from one province to another and between rural and urban areas. Moreover, these figures did not apply to whole of India, as the Bhore Committee dealt only with the conditions obtaining in the provinces directly under the British administration and had left out princely States from its purview. The condition of health services was worse in most of the Indian States. Since the attainment of independence, there has been considerable development of health services throughout the country at all levels, in terms of hospitals, hospital beds, medical and auxiliary personnel, but this gain has largely been neutralised by the growth of population. It may be relevant to mention that the rate of growth of population, which admittedly needs to be brought down, has been brought about by a rapid decline in the death rate due to the development of the medical and health services.

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3.04. The achievements of the three Plan periods can be studied in the table below—

| | 1st Plan (1956) | 2nd Plan (1961) | 3rd Plan (1966) |
|---|---|---|---|
| Institutional hospitals and dispensaries | 10,000 | 12,000 | 14,600 |
| Hospital Beds | 1,25,000* | 1,85,000* | 3,00,000† |
| Primary Health Centres | 725 | 2,800 | 4,930<br>(4,973 in 1967) |
| Medical Colleges | 42 | 57 | 87<br>(91 colleges in 1967) |
| Annual Admissions in Medical Colleges in the last years of Plan period | 3,500 | 5,800 | 10,625<br>(11,500 in 1967) |

*Beds in Government hospitals only.

†Beds in Government and Private hospitals.

| | 1st Plan (1956) | 2nd Plan (1961) | 3rd Plan (1966) |
|---|---|---|---|
| Dental Colleges .. .. .. .. | 7 | 10 | 13<br>(14 in 1967) |
| Annual admissions in Dental Colleges .. | 231 | 281 | 505<br>(550 in 1967) |
| Doctors .. .. .. .. | 65,000 | 70,000 | 86,000<br>(90,000 in 1967) |
| Nurses .. .. .. .. | 18,500 | 27,000 | 45,000 |
| Auxiliary Nurse Midwives and Midwives .. | 12,780 | 19,900 | 35,000 |
| Health Visitors .. .. .. .. | 800 | 1,500 | 4,200 |
| Nurse Dais/Dais .. .. .. | 6,400 | 11,500 | 40,000 |
| Sanitary Inspectors .. .. .. | 4,000 | 6,000 | 18,000 |
| Pharmacists .. .. .. .. | N.A. | 42,000 | 48,000 |

3.05. The number of training institutions and the annual output of trained persons in 1965 was as under:

| (1965 figures) | Number | Average Annual Output |
|---|---|---|
| Medical Colleges .. .. .. .. | 91(1967) | 4,361 |
| Dental Colleges .. .. .. .. | 14(1967) | 245 |
| Pharmacy .. .. .. .. | 26 (1966) | N.A. |
| Nurses training centres .. .. .. | 533 | 6,460 |
| Auxiliary Nurse Midwives .. .. | 299 | 2,840 |
| Health Visitors .. .. .. .. | 19 | 365 |

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3.06. It will be observed that though the number of hospitals and dispensaries increased from 12,000 in 1961 to 14,600 in 1966, the population served by each remained stationary at the level of 1:33,000. The position with regard to hospital beds has improved and the bed population ratio increased from 0.40 per thousand in 1961 to 0.61 in 1967.

3.07. Primary Health Centres had been planned at the rate of one in every block, that is a total of 5,080 for the entire country. By the end of September, 1967, 4,683 Primary Health Centres on the National pattern and 290 on the State pattern had been established. Of the 4,973 Primary Health Centres, 617 (13 per cent) are without doctors.

3.08. Progress in establishing medical colleges has been highly impressive. Their number rose from 57 in 1961 to 91 in 1967. Correspondingly the annual in-take in these institutions has increased from 5,800 to 11,500. The number of working doctors increased from 70,000 in 1961 to 86,000 in 1966, but in spite of this increase, the doctor population ratio has remained more or less stationary at 1:6,000.

However the number of nurses increased from 27,000 in 1961 to 45,000 in 1966, raising the nurse population ratio from 1:16,000 in 1961 to 1:11,000 in 1966.

3.09. We shall now deal with the present position of health services subject-wise:—

3.10. *Population and Family Planning*—India is faced with the problem of population explosion. According to the 1961 Census, India's population was about 440 million. It has now crossed the 500 million mark. Better medical care and improvement in public health have brought about a distinct fall in the death rate. Expectation of life is now reckoned at fifty years, as compared with only thirty-two during 1941—50. There is a net addition of 12.5 millions every year to the population of India. If the fruits of the planned efforts are to reach the people, there is an urgent need to check the rising tide of numbers. The Government have, therefore, been compelled to launch the family planning programme on an all India basis. Family Welfare Planning Centres opened in the rural and urban areas number 4,575 and 1,542 respectively in September, 1967. Their work in the rural areas is being supplemented by 15,374 Primary Health Sub-Centres. Since the inception of the programme about 2.6 million sterilisation operations and over 1.8 million I.U.C.D. insertions have been done. The Government had to exercise great caution in selecting scientifically approved and conventionally acceptable contraceptives. Preference has been given to the use of intra-uterine devices, where the family has a child or two and to permanent conception control, mainly by vasectomy, where there are three or more children. All the media of mass communication the radio, the film, written and pictorial pamphlets and posters are being employed to propagate the concept of family planning in the countryside. The Government also proposes to introduce legislation to raise the age of consent for girls to twenty years, when girls are physically mature, emotionally stable, intellectually alert to enter upon matrimony as a responsible act. Therapeutic abortion is already permissible under the Indian Penal Code. Research on numerous aspects of population dynamics as related to health, medical education, reproduction and other matters is being carried out at different centres. By adopting clinical and non-clinical methods, the Government hopes to reduce the birth rate from the present figure of 40 per thousand to 25.

3.11. *Malaria*—Fight against malaria has been in progress for the last eight years, costing over 1,100 millions of rupees. At present, 60 per cent of our population is in the maintenance phase, 30 per cent, in the consolidation phase and 10 per cent in the attack phase. It is hoped that by the end of 1971, 91 per cent of the population will enter the maintenance phase, 5 per cent the consolidation phase and 4 per cent will continue to be in the attack phase. In 1953, the case rate for malaria was 10.8 per cent, while in 1966 the figures came down to 0.05 per cent, which mean a reduction of about 99.5 per cent. These figures are based on blood smear examination of about forty million slides carried out in four hundred laboratories throughout the country. Malignant tertian malaria has been frequent enough to warrant the assumption that the maintenance phase has failed and that we are sitting on the top of a volcano in some of the States.

3.12. *Tuberculosis*—The disease next in order of seriousness is tuberculosis. The National Tuberculosis Survey, conducted between the years 1955 and 1958, revealed that nearly 1.5 per cent of the population suffers from active tuberculosis, of which one fourth are sputum positive. The National Tuberculosis Programme is based primarily on (a) house-to-house direct BCG vaccination of the people in the 0—24 year age group, and (b) establishment of fully equipped and staffed district tuberculosis clinics to detect and treat the maximum number of patients. Two hundred BCG teams have so far vaccinated 94 million people. These teams are now being integrated with district clinics. Of the 469 tuberculosis clinics functioning in the country, eighty-one are run by voluntary bodies and the remaining by the Governments of States and Union Territories. There are still fifty-one districts without T.B. clinics. At the National Tuberculosis Institute, Bangalore, which is engaged in training personnel for district clinics and for operational research, 213 teams have been trained. Fifteen T.B. Training and Demonstration Centres impart basic training to the personnel of different categories for the State tuberculosis clinics. Besides, mobile X-ray Units are functioning in different parts of the country, mostly located at the training and demonstration or research centres. Recent investigations have confirmed that T.B. can be treated satisfactorily at home. The follow-up study on incidence of relapses in patients has shown that quiescence attained after intermittent chemotherapy was no less stable than that attained by daily chemotherapy. Intensive studies are in progress for the development of an in-expensive but effective non-toxic and acceptable regimen for domiciliary treatment of T.B. These include the use of various drugs singly or in combination. Chemo-prophylaxis trials for prevention of T.B. among contacts have been also undertaken.

3.13. *Smallpox*—A national programme is under way to fight smallpox also. A country-wide mass programme of primary vaccination and re-vaccination has been carried out. By 1st March, 1967, about 70 million primary vaccination and 430 million re-vaccinations had been given. To discover the residual pockets of the 'left outs' including the new-born, requiring primary vaccination, house-to-house verification of the family registers has been undertaken. More emphasis is being laid on the vaccination of labour and migratory populations in towns and cities. 82,000 smallpox cases have been reported recently. W.H.O. team found gross under-reporting. The incidence may be one million in which case it appears that the eradication is not yet complete. Of the four institutes at Patwadanagar, Madras, Belgaum and Hyderabad, which were provided with freeze-dried equipment through WHO/UNICEF assistance, the first three have gone into production, while the one at Hyderabad will shortly go into production. When these Institutions are into full production, the vaccine out-put in the country will increase from the present level of 60 million doses to about 140 million doses per year by the end of 1969. The first of 650 million doses of freeze-dried vaccine received from the USSR has enabled us to carry on with the programme until indigenous product makes us self-sufficient. The programme for fighting smallpox is gradually being integrated with the basic health services in the country.

3.14. *Cholera*—Cholera caused by a new Strain, El Tor Vibrio was observed in West Bengal and Gujarat in 1964. Since then the infection has spread and, in 1966 culture from stool samples of cholera patients in the various States was showing only El Tor Vibrio. States such as Kerala, Gujarat, Punjab, Haryana, Delhi and the Andaman & Nicobar Islands which were free from infection in the past, were also affected, although the incidence of the disease there remained low. In 1966, 13,034 cases of seizure and 2,788 deaths were reported as against 42,684 cases of seizure and 12,742 of deaths in 1965. Most of the vaccine-producing centres have switched over to the manufacture of vaccine which is also effective against El Tor Strain.

3.15. Controlled field trials have shown that the vaccine available at present, possesses less than 50 per cent effectiveness and that there is need for improving its potency.

3.16. *Leprosy*—There are 300 million people living in the endemic zones. Of these 62 millions had by March, 1967 been covered by the survey, which brought out the fact that 0.61 million out of a total of 0.65 million positive cases are under treatment. Thirty-one voluntary agencies are participating in the leprosy control programme in the States. These programmes are gradually being integrated with the basic health service.

3.17. Field trials have shown that D.D.S., a newly-developed drug, has a definite prophylactic value.

3.18. *Filaria*—Filariasis, now widely prevalent in India, has become a major public health problem. Recent surveys have revealed that about 122 million people live in areas with varying degrees of filarial endemicity. Among the principal causes of the spread of filaria are the increase in the mosquito vector owing to unplanned and rapid urbanisation, lack of proper drainage and influx of the infected but symptomless people from the endemic areas. To control the disease on a permanent basis there is need for improvement of drainage facilities, disposal of sewerage and general sanitation. These measures will involve large investment in funds, equipment over a long span of time.

3.19. Out of 220 towns in the filaria endemic areas, fifty-two are covered by the national water supply and sanitation programme. The National Filaria Control Programme comprises of anti-larval measures, application of mosquito larvicides and establishment of night clinics for the detection and treatment of microfilaria carriers, public health education, establishment of research and training centres for the control of filariasis in the rural areas.

3.20. *Water Supply and Sanitation*—The National Water Supply and Sanitation Programme was initiated by the Ministry of Health in the year 1954. For Urban Schemes under this programme, long-term loans are sanctioned to cover 50 per cent of the cost; the remaining 50 per cent given as grant-in-aid. Out of 2,451 towns with a population of over 20,000 in 1961, only about 750 towns have water-supply work and not more than 100 towns sewerage system. About

40 per cent of the urban population is still to be provided with protected water supply and about 75 per cent with sewerage system. The total cost of providing these twin facilities is estimated at Rs. 10,000 millions.

3.21. The rural population in 1961 numbered about 360 millions, distributed over 5,59,000 villages of which roughly two-thirds live in easy areas. A majority of these have already been provided with safe drinking water from the nearby sources. Piped water system drawing supply from distant sources would be needed for the remaining one third population, living in difficult and scarcity areas, the cost of which is estimated at about Rs. 6,300 million.

3.22. The availability of funds of this magnitude does not at present appear in sight, although with the provision of safe drinking water the incidence of diseases like filariasis, guinea-worm and other water borne diseases will be considerably reduced.

3.23. *National Trachoma Control Programme*—The National Trachoma Control Programme was initiated in March 1963 as a defence-oriented project. In the United Punjab and in the States of Rajasthan, Uttar Pradesh and Gujarat, the scheme was implemented as a centrally-sponsored project. In the States of Jammu and Kashmir and Madhya Pradesh, the programme was taken in hand for implementation on a limited scale with 50 per cent subsidy from the Central Government. Initially, it was taken up as uni-purpose specialised programme through special field units, but subsequently in August 1966 it was decided to integrate this programme with the basic health services. By the end of the Third Plan, the programme has covered seven million people.

3.24. With the urbanisation and rapid paced industrialisation, life for the citizen has become more complex. Stresses and strains have increased leading to a higher incidence of cariac and mental diseases, and in the years to come the medical services will be required to give greater attention to these and to other viral and malignant diseases brought to light by improved methods of investigation. The hospital services have to be so organised as will ensure an early detection and effective treatment of these diseases, as well.

## CHAPTER IV

## ORGANISATION OF MEDICAL FACILITIES

4.01. In spite of considerable progress during the past twenty years since Independence, which has been discussed in detail in Chapter III, the country has remained short of medical men, nurses and other para-medical personnel. This deficiency makes the work of establishing comprehensive health services extremely difficult. Besides, the growth of indoor facilities in rural areas has lagged far behind those in the urban areas. The rural medical institutions, i.e. the Primary Health Centres and the Tehsil/Taluq hospitals, constitute 83.6 of all hospitals in India, but the number of beds located there is only 36.1 per cent of the total beds. This disparity becomes more glaring in the case of the Primary Health Centres, which constitute 59.1 per cent of all medical institutions, but have 10.9 per cent of the bed-strength. The following table highlights the disparity:—

| | No. of Hospitals | Percentage of total hospitals | No. of beds | Percentage of total beds |
|---|---|---|---|---|
| *Urban* | | | | |
| Teaching Hospitals (at regional level) .. | 160 | 1·9 | 67,'86 | 24·7 |
| District Headquarters .. .. . | 1,219 | 14·5 | 10,665 | 39·2 |
| *Rural* | | | | |
| Tehsil and Taluq headquarters .. .. | 2,053 | 24·5 | 63,536 | 25·2 |
| Development Block headquarters .. .. | 4,973 | 59·1 | 29,838 | 10·9 |

4.02. Appendix XIV gives information regarding the number of beds by the sizes of hospitals. It will be found that 54 per cent of all beds are located in 11 per cent hospitals with 200 and more beds, while 14 per cent of the total beds are to be found in 55 per cent of the hospitals having less than 50 beds. The balance of 32 per cent beds is to be found in medium-sized hospitals with 50 to 200 beds.

4.03. *Targets for Hospital Beds*—The problem of fixing targets for hospital beds is a highly complex one, depending on a variety of factors such as the density and age distribution of population, incidence of diseases, educational and economic status of the people, their living conditions, special habits, housing and transport facilities, availability of medical and para-medical personnel, hospital equipment, and private practitioners and most of all on the availability of funds. Precise information on most of these items is lacking and even where it is available, the weightage to be given to any one of these items remains a matter of conjucture.

The Group, after giving full weight to consideration of economy, full utilisation of the existing bed strength and provision of necessary specialities in hospitals, have reached the conclusions contained in the succeeding paragraphs..

4.04. A study of hospital-beds instituted by the Group has shown that great disparity exists between the more advanced areas and less advanced ones. For instance the bed-population ratio in Jammu and Kashmir is 1.01 per thousand as against 0.23 for Assam. Among the Union Territories, the bed-population ratio for Manipur is 0.59, as against 2.51 for Delhi. Even within the same State the development of institutional facilities has not been uniform and wide disparities exist between one district and another. The bed-population ratio in Madhya Pradesh for the Sehore district is 1.97 per thousand, while for Mandla, Bastar and Betul districts it is only 0.10. Similarly, in Andhra Pradesh the bed-population ratio is 1.79 per thousand for Hyderabad, while it is, 0.05 for Adilabad. In order to improve these disparities, targets for hospital beds must be fixed region-wise and, if possible district-wise. However, the requirements of the hospitals at various levels such as teaching and district hospitals cannot be overlooked. In teaching hospitals the number of beds has to depend on the number of specialities and on the number of students. According to the recommendations of the Medical Council of India, the teaching hospitals should have 5 beds for every student. Generally, there are 100 admissions in a college and the minimum bed-strength of the teaching hospital thus comes to 500. The hospital at the district headquarters must also be a viable unit, having main specialities, laboratory X-ray and other diagnostic facilities to serve as a referral hospital. Such a hospital would need a minimum of 200 beds.

4.05. The Group recommends the following pattern of development for hospital beds and suggests that it be attained by 1971:—

| | | |
|---|---|---|
| Teaching Hospitals ... | 500 | (to be increased according to the number of students). |
| District Hospitals ... | 200 | (may be raised, depending on population, up to 300 beds). |
| Tehsil/Taluq Hospitals ... | 50 | (may be raised depending on population). |
| Primary Health Centres ... | 6 | (may be increased to 10 depending on needs). |

4.06. The Group has found that facilities for medical care at the district hospitals in most parts of the country are inadequate. Out of a total of 335 districts in the country, only 125 (37 per cent) have more than 200 bedded hospitals. Of the remaining 210 districts, 89 (27 per cent) have hospitals with 100 to 200 beds, and 121 (36 per cent) have less than 100 bedded hospitals. District hospitals with less than 200 beds, particularly those with about 100 beds, suffer from inadequacy of nursing staff, equipment and drugs and diet.

4.07. The Group is of the opinion that the reorganisation and improvement of hospitals at the district headquarters is the most important single step that will make better medical care available to the people. It is better to concentrate our meagre medical facilities at a few key points instead of dispersing them over large areas. The manner in which medical services at the district headquarters can be linked with medical institutions at the higher or lower levels has been dealt with separately.

4.08. The Group recommends that in each of the 210 district hospitals having less than 200 beds, the strength should be raised to a minimum of 200 beds. In the remaining 125 districts the bed strength may depending on the population served, be raised up to

300. Ordinarily the distribution of these beds should be on the following pattern:—

| | |
|---|---|
| Medical | 60 |
| Surgical | 40 |
| Gynaecology & Obstetrics including Maternity | 35 |
| Paediatrics | 15 |
| Orthopaedics | 5 |
| Eye | 10 |
| E.N.T. | 10 |
| Skin | 5 |
| Emergency | 5 |
| Isolation | 10 |
| Psychiatry | 5 |
| | 200 |

4.09. Since the District hospital is to serve as a referral centre, it should provide specialist services in medicine, surgery, obstetrics and gynaecology, eye, E.N.T., paediatrics, dentistry, psychiatry and venereal diseases. The T. B. Clinic at the district headquarter wherever it exists, should work in close liaison with the district hospital and its medical officer should work as T.B. specialist to the district hospital. Adequate laboratory and diagnostic facilities, which are described in detail in the relevant chapter, should be provided at district hospital. The district hospital must not only meet the needs of the district headquarters but of all the referral cases from medical institutions in the district.

4.10. Out of 3,000 tehsils/taluqs in the country only 2,053 have hospitals. The standard of medical care at the tehsil/taluq hospitals, varies widely. Generally, the tehsil/taluq hospitals in the South India are larger in size and more efficiently managed compared to even the district headquarter hospitals in some other parts of the country. In some backward districts of the North-India States, the standards of medical care at tehsil/taluq level are extremely inadequate. The Group, therefore, suggests that each of the 947 tehsils/taluqs, which do not have hospitals at present, should be provided with one hospital each with a minimum bed-strength of 50. In other tehsils/taluqs where the bed strength is less than 50, it should be raised to a minimum of 50. The distribution of beds should generally be on the following pattern:—

| | |
|---|---|
| Medical | 20 |
| Surgical | 15 |
| Maternity & Gynaecology | 10 |
| Isolation | 5 |
| | 50 |

4.11. The tehsil/taluq hospital should be provided with three medical officers, one each for the three basic specialities, i.e. medicine, surgery and gynaecology and obstetrics. The doctor in-charge of gynaecology and obstetrics should preferably be a woman. She could also take charge of maternity and child health work and family planning. The tehsil/taluq hospital should have a good pathological laboratory capable of undertaking investigation of all the routine specimens, viz. blood, urine, stool and C.S.F. It should have an X-ray plant of 30 to 50 M.A. in addition to lamps for ultra violet and infra red therapy. This subject has been dealt more fully in the chapter on laboratory and diagnostic facilities.

4.12. *Primary Health Centres*—Our recommendations in regard to Primary Health Centres are dealt with in Chapter V. The six beds provided at the Primary Health Centre are adequate and it has been suggested that this number could be raised to 10 depending on needs.

4.13. *Financial Implications*—The above recommendations will increase the total number of beds in the country from 3,18,000 at present to 4,20,000 in 1971, thus raising the bed population ratio from 0.61 in 1976 to 0.75 per thousand. To implement this recommendation 1,02,000 additional beds will have to be provided. According to the estimate of the Hospital Equipment Standardisation Committee, set-up by the Government of India in 1962, the average recurring and non-recurring cost per bed was Rs. 3,000/- and Rs. 10,000/- respectively. Enquiries made by the Study Group reveal that the cost of building material has gone up by 50 per cent between 1963 and 1967 and there has been substantial change in the recurring cost also. Taking the non-recurring cost as Rs. 15,000 per bed and recurring cost as Rs. 4,000 per bed per annum, the cost of providing 1,02,000 additional beds by 1971 will be Rs. 40.8 crores recurring and Rs. 153.0 crores non-recurring. The details of financial implications are given in Appendix XVIII. In the second stage of hospital development, it is proposed to raise the bed-population ratio according to a phased programme from 0.75 in 1971 to one bed per thousand of population by 1976. This finds support from recommendations of the Mudaliar Committee. The details of the financial implications of raising the bed strength during the year 1971—76 are as under:—

| Year | Population in lakhs | Targets of beds per 1000 population | No. of beds required | Additional beds required | Non-recurring expenditure @ Rs. 15,000 | Additional recurring expenditure @ Rs. 4,000 per bed per year |
|---|---|---|---|---|---|---|
| | | | | | (Rs. in crores) | (Rs. in crores) |
| 1971 | 5,596 | 0·75 | 419,700 | | | .. |
| 1972 | 5,737 | 0·80 | 459,000 | 39,300 | 59·0 | 15·7 |
| 1973 | 5,878 | 0·85 | 499,600 | 40,600 | 60·9 | 16·2 |
| 1974 | 6,020 | 0·90 | 541,800 | 42,200 | 63·3 | 16·9 |
| 1975 | 6,161 | 0·95 | 585,300 | 43,500 | 65·3 | 17·4 |
| 1976 | 6,302 | 1·00 | 630,200 | 44,900 | 67·3 | 18·0 |
| | | | | 2,10,500 | 315·8 | 84·2 |

4.14. Thus the total cost during the period 1968—76 of providing 3,12,000 additional beds in order to raise the bed population ratio from 0.61 bed per thousand of population by 1976 to one bed per thousand of population by 1976 would be Rs. 125.0 (Rs. 40.8 plus Rs. 84.2) crores recurring and Rs. 468.8 (Rs. 153.0 plus Rs. 315.8) crores, non-recurring.

4.15. The Group was greatly impressed by the good and commendable work being done by many of the voluntary organisations in the field of medical care. About 19 per cent of the total beds available in the country are being managed by them. The Group have a feeling that enough encouragement is not being given by the Union and State Governments to voluntary institutions in setting up hospitals, dispensaries and nursing homes. In the field of education, a regular system of grant-in-aid exists to encourage voluntary organisations to open teaching institutions. The group is of the view that the Government should work out a suitable system of liberal grants-in-aid to give support to voluntary agencies, who provide medical care and service on a non-restrictive basis. This way the country could be provided with more facilities and beds at a comparatively lower cost.

4.16. *Measures for the fuller-utilisation of the Institutional Facilities*—The Group observed that there was over-crowding at the bigger hospitals and invariably temporary beds were put up in their verandahs and corridors to accommodate the over-flow. At the same time in smaller hospitals at the tehsil/taluq level and in the Primary Health Centres the beds remained un-utilised. Generally speaking in smaller hospitals the bed occupation ratio was lower. We were informed that the overall bed occupancy in the bigger hospitals was as high as 90 per cent, while in the case of Primary Health Centres it was only 60 per cent. The cost (recurring and non-recurring) of a bed, whether in a big hospital or a small one is the same. The Group is definitely of the opinion that over-crowding at bigger hospitals should end and the bed occupancy ratio at smaller hospitals and Primary Health Centres should increase. The distribution of patients among hospitals of various grades needs rationalisation. The following measures should be helpful in achieving this goal:

(1) When a patient no longer needs the specialised medical care of a regional or a district hospital he should be sent back to the tehsil/taluq hospital or the Primary Health Centre nearest to his residence for general treatment. In any case convalescing patients discharged from bigger hospitals should find ready admission in Primary Health Centres:

(2) Convalescent homes may be set up where chronic and incurable patients may stay on nominal payment and in case of indigent persons free of charge. A beginning may be made in cities with a population of 5 lakhs or more:

(3) Medical Inns may be set up in the vicinity of bigger hospitals, preferably by private bodies, where patients and their relatives from moffusil areas may stay on payment during the period of diagnosis; and

(4) Specialist, laboratory and diagnostic services, as recommended by the Group, may be provided soon at smaller hospitals in order to help create a climate of confidence and facilitate the working of referral back system.

4.17. *Referral Services*—One of the major problems of health services has always been, as it is today, to bring specialist services nearer to the people living in rural areas. The Primary Health Centre and the tehsil/taluq hospital are not adequately staffed and eqiupped to provide specialist care to the people who have to depend, for consultation and diagnosis and treatment in cases of serious illness, on hospitals at a higher level.

4.18. The referral services at present exist only in name and medical institutions at lower levels work more or less in isolation, with little or no assistance from the regional or district hospitals. Cases are referred to the district/teaching hospitals only rarely, mostly in emergency, and once the patient leaves the Primary Health Centre or the tehsil/taluq hospital, he ceases to maintain any link with them. There is hardly any consultation between the doctors at the higher and lower level hospitals.

4.19. The solution to the problem lies in the regionalisation of the specialist services, each region having a central hospital, with a wide range of specialist services and adequate laboratory and diagnostic facilities. The teaching and district hospitals are suited to function as referral hospitals. This system obtains in most countries of the world. The medical facilities are so operated that from the smallest to the biggest hospital the system operates as an integrated whole, the higher level specialist services being available at each successive tier from Primary Health Centre or tehsil/taluq hospital to the district and the teaching hospitals. Besides providing modern facilities of diagnosis and treatment to larger numbers, this system is more economical. It also ensures increased utilisation of hospital beds.

4.20. The Group recommends that all teaching hospitals should be treated as regional hospitals, each serving a specified area or hinterland covering two or three adjoining districts. A scheme showing districts which can be conveniently attached to teaching hospitals is given in Appendix XIX. The linking of districts with the teaching hospitals should be made known widely to doctors. Since there are only 91 medical colleges for 335 districts, it is not possible to attach all hospitals to teaching hospitals. District hospitals which are not attached to teaching hospitals, should be developed as full-fledged referral centres. Further, it is suggested that new colleges should be opened at places suited to function as regional medical centres.

4.21. Cases from district hospitals should be referred to regional hospitals. The next lower level of reference should be the district hospital to which cases from tehsil/taluq hospitals and Primary Health Centres should be referred. Whenever specialist consultation and advice are needed, cases may be referred from lower level hospital/Primary Health Centre to the appropriate hospital. The referring doctor may in serious case exercise his discretion and refer the case to the teaching hospital.

4.22. It may be mentioned that after consultation with the specialist, the patient, unless he needs hospitalisation at higher level hospital, should be referred back to the originating hospital or Primary Health Centre along with details of diagnosis and treatment. Patient not responding to the treatment of the specialist at one level should be referred to the specialist at the higher level, that is from the district hospital to the teaching hospital.

4.23. The Group has examined the proposal made by some persons that in order to reduce distances for the patient and provide facilities nearer home to the rural people, the tehsil/taluq hospitals should be developed as full-fledged referral centres. In view of shortage of trained doctors, nurses, para-medical staff and funds, however, the proposal is not considered feasible. Nevertheless in some areas where distances are long and means of communication difficult such as hilly districts and difficult areas like Bastar, certain tehsil/taluq hospitals should be developed as full-fledged referral centres.

4.24. In order to improve the referral services, the Group recommends that mobile teams of specialists from district and teaching hospitals should visit tehsil and taluq hospitals and Primary Health Centres at regular intervals to advise the doctors on cases treated there and for the transfer of cases needing specialist care. This recommendation may involve appointment of more specialists, but it has definite advantages. Besides, maintaining the continuity in treatment, the specialists' visit will help doctors at the Primary Health Centre and the tehsil/taluq hospital to keep abreast of new developments in medical science.

## CHAPTER V

## PRIMARY HEALTH CENTRES

5.01. *Introduction*—The Primary Health Centre is the peripheral institution from which health services radiate to the rural community. It constitutes the embodiment of the new concept of integration of preventive and curative care. The Centre is founded on principle that the maintenance of health is just as important as the treatment of disease and to secure both, all concerned must work as a team. It is the smallest agency which provides preventive and curative health services including family planning in an integrated manner to the rural population.

5.02. The idea of developing Primary Health Centres for providing comprehensive health services in the rural areas of India was first presented in a concrete form by the Bhore Committee in 1946. In the short term programme, the Committee proposed the setting up of Primary Health Centres at the periphery, each catering to a population of 40,000. with a secondary health centre to serve as the supervisory, co-ordinating and referral institution for the Primary Health Centres. For each Primary Health Centre the Committee recommended two Medical Officers, 4 Public Health Nurses, one Nurse, 4 Midwives, 4 trained Dais, 2 Sanitary Inspectors, 2 Health Assistants, one Pharmacist, 2 Clerks and 15 Class IV employees. In the long-term programme the Bhore Committee recommended that a Primary Health Centre should finally serve a population of 20,000 only.

5.03. *Initiation of the Programme*—The recommendation of the Bhore Committee was examined at the time of the formulation of the First Five Year Plan but, owing to the limitation of resources particularly in respect of trained personnel, it was not considered possible to adopt the pattern of Primary Health Centres as recommended. Instead it was decided in 1951 to have one Primary Health Centre in each Community Development Block covering a population of 60 to 70 thousands (now 80,000). The following staffing pattern was initially adopted for the Primary Health Centre:—

| | |
|---|---|
| Medical Officer ... ... ... ... | 1 |
| Sanitary Inspector ... ... ... | 1 |
| Lady Health Visitor ... ... ... | 1 |
| Auxiliary Nurse Midwives ... ... ... | 4 |
| Compounder ... ... ... ... | 1 |
| Driver ... ... ... ... ... | 1 |
| Ancillary Staff ... ... ... ... | 2 |

The Primary Health Centre complex consisted of the main headquarters with six beds and three sub-centres. Each sub-centre was placed under the charge of a Auxiliary Nurse Midwife. The function of the Primary Health Centre included at that time medical relief, both out patient and in-patient, maternity and child health, control of communicable diseases, school health, evironmental sanitation, and health education. The sub-centres provided maternity and child health and restricted out-patient services.

5.04. *Developments*—Of the 5,080 Primary Health Centres, proposed to be established in the country on the basis of one Primary Health Centre for each block, 2,800 had been established by 1961, when their working was reviewed by the Mudaliar Committee. The Committee found that the primary health centres, as they were constituted and staffed then, were not competent to offer an integrated health service. Their activities were not public health oriented in the manner and to the extent necessary. The Mudaliar Committee, therefore, recommended radical revision of the pattern and suggested that Primary Health Centres opened thereafter should serve a population upto 40,000 and have full complement of the staff recommended by the Bhore Committee. Further Primary Health Centres in existence were to be upgraded by stages, until they attained pattern recommended by the Bhore Committee. For the remaining rural population, the Committee felt that it would be preferable to provide medical coverage through mobile health units visiting primary health centres from district and taluq headquarters. The Bhore Committee pattern of staffing the Primary Health Centres was recommended for adoption, when facilities in regard to personnel, finance and other requirements were sufficiently enlarged.

5.05. The recommendations of the Mudaliar Committee, which were considered at the meeting of the Central Council of Health in 1962, could not be accepted owing mainly to shortage of trained personnel and funds. It was decided that the whole country should be covered initially by Primary Health Centres atleast on the existing pattern.

5.06. Meanwhile certain developments took place which necessitated the re-examination of the basic health services. In 1963, Family Planning services were integrated with Public Health Programme and about the same time the National Malaria Eradication Programme entered the maintenance phase. Under the reorganised Family Planning Programme, the following additional staff was provided at the headquarters of the primary health centres:—

| | |
|---|---|
| Medical Officer (Woman) ... ... ... | 1 |
| Extension Educator .. ... ... | 1 |
| Storekeeper-cum-clerk ... ... ... | 1 |
| Auxiliary Nurse Midwife ... ... ... | 1 |
| Male F. P. Field Workers (each to supervise the work of four sub-centres) ... ... ... | 2 |

It was also proposed under the reorganised programme that one sub-centre should cater approximately to a population of 10,000. Thus the number of sub-centres was increased from 3 to 6—8 and family planning service was made one of the major activities of the sub-centre. The following staffing pattern was suggested for the sub-centre:—

| | |
|---|---|
| Auxiliary Nurse Midwife ... ... ... | 1 |
| Voluntary Worker (to act as female attendent) ... | 1 |

सत्यमेव जयते

5.07. For working out measures required for the maintenance phase of National Malaria Eradication Programme, a Special Committee* was constituted by the Union Ministry of Health. The Special Committee recommended one basic health worker for 10,000 people and 2 health inspectors and one laboratory technician for each primary health centre. It also recommended that four health inspectors/assistants (the two provided under family planning programme and the two recommended by the Committee) should supervise the work done at the sub-centres. Thus the Committee laid down the basic frame-work of comprehensive health services at the primary health centre level, which would integrate, to start with, family planning, maternity and child health, health intelligence, verification of vital statistics, vigilance activities connected with malaria eradication and, subsequently, with the reduction in work load to include other functions with the ultimate aim of providing unified health care. The staff pattern as developed after the reorganisation of Family

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* Special Committee on the preparation for entry of the National Malaria Eradication Programme into the maintenance phase, 1963

Planning Programme and the recommendations of the Special Committee was as under—

| Category | Staff under the initial pattern | Staff under reorganisd Family Planning Programme | Recommendations of the Special Committee | Total Staff (1963) |
|---|---|---|---|---|
| Medical Officers .. .. | 1 | 1 | .. | 2 |
| Compounder .. .. .. | 1 | .. | .. | 1 |
| Sanitary Inspector .. .. | 1 | .. | .. | 1 |
| Health Assistants (F.P.) .. | .. | 2 | 2 | 4 |
| Public Health Nurse .. .. | 1 | .. | .. | 1 |
| Lady Health Visitor/Auxiliary Nurse Midwife .. .. | 4 | 6 | .. | 10 |
| Basic Health Worker .. .. | .. | .. | 8 | 8 |
| Laboratory Technician .. .. | .. | .. | 1 | 1 |
| Extension Educator .. .. | .. | 1 | .. | 1 |
| Computer .. .. .. | .. | 1 | .. | 1 |
| Clerk .. .. .. | .. | .. | .. | .. |
| Store-keeper .. .. .. | .. | 1 | .. | 1 |
| Driver .. .. .. | 1 | .. | .. | 1 |
| Ancillary .. .. .. | 2 | .. | .. | 2 |
| Female Attendant .. .. | .. | 8 | .. | 8 |

5.08. With the I.U.C.D. Programme coming to the fore-front in 1965, it became necessary to review the situation, and a Special Committee* was appointed, which recommended that the Family Planning Programme should function as a crash programme and be associated with Maternity and Child Health and that the malaria vigilance activities be delinked from Family Planning, in order that the latter receive more concentrated attention. In order to achieve this end, the Committee recommended one additional lady health visitor and two additional family planning assistants for Family Planning work only at Primary Health Centre. While implementing the recommendations of the Special Committee most of the State Governments transferred the existing four health assistants/inspectors to the family planning side, thus leaving no staff for the supervision of work relating to the maintenance phase of the National Malaria Eradication Programme. This action made one programme stronger and the other weaker.

5.09. This situation made a further review necessary and the Government set up another Committee on the Basic Health Services (July 1966) to review the staffing pattern of the Primary Health Centre complex and to recommend the minimum staff of various categories required at different levels within the district for integranted health services, capable of fully catering to the needs of the vigilance services in the maintenance phase of the National malaria Eradication Programme, Smallpox Eradication Programme, Leprosy

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NOTE—1. Average population of a block is 80,000 with 6 sub-centres.

2. One Auxiliary Nurse Midwife, a Basic Health Worker and one voluntary female attendant for every 10,000 population.

*Special Committee appointed to review staffing pattern and financial provision under the Family Planning Programme, 1966.

and Trachoma Programmes etc. This Committee recommended one basic health worker for a population of 10,000 as was done by the Special Committee appointed in 1963. For every for basic health workers, a health inspector was to be provided. In order to relieve the medical officer of the Primary Health Centre of the clerical work, a clerk was also recommended for the headquarters of Primary Health Centre.

5.10. The full staff pattern of the primary health centre complex at it emerged after the developments enumerated above is as under:—

| Category | Staff under initial pattern | Staff under re-organised F.P. Programme | Recommendations of the Special Committee[*] | Recommendations of the Special Committee[†] | Recommendations of the Committee on Basic Health Services | Total |
|---|---|---|---|---|---|---|
| Medical Officer .. | 1 | 1 | .. | .. | .. | 2 |
| Compounder .. .. | 1 | .. | .. | .. | .. | 1 |
| Sanitary Inspector .. | 1 | .. | .. | .. | .. | 1 |
| Health Inspector/Health Assistant (F.P.) .. | .. | 2 | 2 | 2 | .. | 6 |
| Public Health Nurse/Lady Health Visitor .. | 1 | .. | .. | 1 | .. | 2 |
| Auxiliary Nurse Midwives | 4 | 6 | .. | .. | .. | 10 |
| Basic Health Worker | .. | | 8 | .. | .. | 8 |
| Laboratory Technician .. | .. | .. | 1 | .. | .. | 1 |
| Extension Educator .. | .. | 1 | .. | .. | .. | 1 |
| Computer .. .. | .. | 1 | .. | .. | .. | 1 |
| Clerk .. .. | .. | .. | .. | .. | 1 | 1 |
| Storekeeper .. .. | .. | 1 | .. | .. | .. | 1 |
| Driver .. .. | 1 | .. | .. | .. | .. | 1 |
| Ancillary .. .. | 2 | .. | .. | .. | .. | 2 |
| Female Attendant .. | .. | 8 | .. | .. | .. | 8 |

5.11. *Progress*—By the end of September 1967, 4,683 Primary Health Centres on the National pattern and 290 on the State pattern had been established. In addition, 19,927 sub-centres were also functioning in the country. Thus there were on an average 4 sub-centres per Primary Health Centre as against 8 provided in the pattern. There are still 396 blocks which do not have Primary Health Centres. A statement showing the number of blocks, Primary Health Centres set up position of doctors etc. is at Appendix XXI. It would be seen that there are still 617 (13 per cent) Primary Health Centres without doctors. The States where the shortage of doctors is more acute are Uttar Pradesh (42 per cent), Rajasthan (38 per cent),

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[*] Special Committee on the preparation for entry of the National Malaria Eradication Programme into the maintenance phase, 1963.

Special Committee appointed to review staffing pattern and financial provision under the Family Planning Programme 1966.

NOTE 1. Average population of a block is 80,000 with 8 sub-centres.

2. One Auxiliary nurse midwife, a voluntary female worker and a basic health worker for every 10,000 population.

Himachal Pradesh (42 per cent), and Nagaland (100 per cent). It may be mentioned that a lady doctor is provided at each Primary Health Centre for family planning work. Information regarding the number of centres, where the lady doctor is not in position, is not available, but it is believed that the situation is far from satisfactory.

5.12. *Observations and Recommendations*—The Group took every opportunity in the course of their tour of the States to observe the actual working of the Primary Health Centres. The most serious draw-back, which the Group noticed, was that the responsibility of providing integrated health care, including Family Planning Services, to a population of 80,000 was too heavy for the complement of staff provided at the Primary Health Centre. In practice the Primary Health Centre does not serve more than 30 to 40 thousand people living within a radius of two to four miles of the main centre and sub-centres. The Group, understands that it is the accepted policy of the Government to raise all sub-centres to the status of Primary Health Centre. The Group however recommends that by the year 1976, at least one of the sub-centres in the Block should be raised to the status of Primary Health Centre. This will reduce the population coverage of the main Primary Health Centre and give improved services.

5.13. It may be mentioned that although the number of staff has increased from 11, to begin with, to 44—46 for the Primary Health Centre complex, enough attention is not given to preventive work. This is perhaps due to the lack of orientation in public health among the workers, including medical officers of the Primary Health Centre. The Group, therefore, suggests that medical officers of the Primary Health Centre should be oriented in public health and necessary arrangements made for it. The Group, further, recommends that in order to fill the posts now lying vacant, training facilities for the type of staff needed should be augmented.

5.14. It came to the notice of the Group that in some States, the existing medical officer had been transferred to the Family Planning work and the resultant vacancy left unfilled. This no doubt saved some money to the State as the entire expenditure on Family Planning is re-imbursed by the Union Government, but thereby the working of the Primary Health Centre was virtually paralysed. The Group would like to lay down in clear terms that the lady doctor for the family planning work should always be in addition to the medical officers on the health side.

5.15. In Chapter IV the Group has made recommendations for improving the bed-occupancy ratio at the Primary Health Centre level. The bed-occupancy varies from place to place depending on the development of communications, general standards of living of the people, health-conditions in the area, etc. The Group recommends that in appropriate cases, wherever the need exists, the number of beds at Primary Health Centre may be increased from 6 to 10.

5.16. The Group was informed that the Primary Health Centres were attached to the tehsil and district hospitals for referral services but the facility was not being fully utilized in practice because of the long distances involved. A W.H.O. Study shows that only 30 per cent of the centres were situated within 20 miles of the nearest hospital, 36 per cent were within 20 to 50 miles and the remaining 34 per cent more than 50 miles. Of these 34 per cent, 6 per cent were more than 80 miles farther away. The Group feels that if specialised facilities are to be made available to the rural people, specialists from the teaching and district hospitals should visit Primary Health Centres at regular intervals to advise the doctors on cases treated there. In addition, ambulance services should be made available at Primary Health Centres. Details are given under Referral Services in Chapter IV.

5.17. At present, a laboratory technician with a microscope is located at the Primary Health Centre for the maintenance phase of the National Malaria Eradication Programme. The Group suggests that he should in addition to his own duties also undertake simple tests like stool, urine, blood etc., of patients attending the Primary Health Centre.

5.18. The Group came across a number of allopathic dispensaries being run by District Boards of Zila Parishads which render valuable services to the rural area round about. The Group recommends that these dispensaries should continue as hitherto but be treated as sub-centres and attached to the Primary Health Centre. In blocks which do not have any Primary Health Centre, one of the dispensaries should be upgraded to the status of the Primary Health Centre and other dispensaries function as its sub-centres.

5.19. We have referred earlier to the question of non-availability of medical officers in Primary Health Centres. Even if the doctors are posted there, they remain on the look out for transfer to cities, with the result that doctor-patient relationship is never established. The reasons for this state of affairs are the difficult conditions of living, lack of amenities and basic facilities such as communications, children's education, social, cultural and academic life and poor working conditions. Several committees have recommended grant of incentives to attract doctors to rural areas. The incentives actually offered by State Governments differ from State to State, but by and large, they are insufficient to attract doctors. It may be relevant to point out here that reluctance on the part of the medical officers to work in the rural areas is not peculiar to India; it prevails almost in all parts of the world. For instance, in Norway doctors in rural areas are assured of a guaranteed income and given rent-free house; in Yugoslavia the doctors are compulsorily required to work in rural areas for two years. Before the introduction of the National Health Services, doctors in the U.K. were offered inducement to practice in the highlands in the form of guaranteed income, travelling allowance and housing.

5.20. The Group has thoroughly examined the problem of incentives and make the following recommendations:—

(i) improvement of working conditions at the Primary Health Centres;

(ii) reasonably comfortable residential quarters with sanitary facilities for all staff;

(iii) formation of a unified cadre of all doctors in the State Government Service;

(iv) grant of rural allowance to medical officers;
(v) posting by rotation in rural and urban centres;
(vi) regular training facilities at the district hospitals;
(vii) provision of professional journals to help in keeping knowledge up-to-date;
(viii) provision of transport facilities.

These recommendations find support in the deliberations of the Conference on Primary Health Centres held in New Delhi in June 1967.

## CHAPTER VI

## OUT PATIENT DEPARTMENT AND EMERGENCY SERVICES

6.01. The Out-Patient Department is an accepted constituent unit of the hospital. It is here that a patient comes first and forms an impression of the type of service he should except to get in the hospital. The value of an efficient Out-Patient Department in treating minor illnesses and avoiding unnecessary admissions to hospital is enormous. It is, therefore, of utmost importance that adequate facilities should be provided at the Out-Patient Department, including proper arrangements for reception and treatment of patients in comfort and without delay.

6.02. The Group found that the out-patient department in hospitals was generally located close to the indoor wards. This arrangement is undoubtedly convenient to the doctors and the staff. However, it leads to overcrowding and often the out-door patients, and their attendants roam about in the verandahs and the corridors of the in-patient departments and thereby causing annoyance to the in-patients. Besides, it leads to insanitation and infection. The Group, therefore, recommends that out-patient department should be located at suitable distance from the in-door wards. It should, however, be connected by a corridor with the laboratory, X-ray and other diagnostic rooms. In case, sufficient space is not available within the hospital premises the out-patient department and emergency service should be located on the ground floor, and in-door wards on the upper floor. It may not be possible to apply these recommendations to smaller hospitals. The Group understand that some poly-clinics have already been established in the neighbourhood of big hospitals. These poly-clinics investigate and treat out-door cases and refer the deserving ones for admission to the hospital. The Group considers this practice to be a desirable one and recommends that more poly-clinics should be established in the neighbourhood of big hospitals.

6.03. In planning the out-patient department, attention should be given to the size and composition of population of the area to be served. Though specific data of the total requirements of the O. P. D. is not available, yet on the basis of morbidity surveys conducted in different parts of the country, we are of the view about two per cent of the population need out-door treatment daily. Apart from the Allopathic system of medicine, a number of patients get themselves treated by other systems especially Ayurvedic, Unani and Homoeopathic and by private practitioners and therefore it is our view that the out-patient department in hospitals should be planned to provide services for one per cent of the population of the area to be catered for.

6.04. Proper reception, quick disposal and courteous behaviour, apart from medical aid facilities for patients and their attendants are of vital importance. Some of them come from far off places after travelling long distances and stand in need for immediate attention and care. The reputation of a hospital is built upon the way the patient is received, examined, treated and looked after and the efficacy of medicines administered. It is imperative that the Out-Patient Department should be sufficiently large to avoid congestion. In most Out-Patient Departments there is a system of central registration, after which the patient proceeds to the concerned clinical department. The reception counter should be at a prominent place within easy approach. The Group learnt that a number of illiterate patients, from the rural areas move to and fro and find it difficult to reach rooms occupied by different clinical specialities and recommends that the O.P.D. cards issued to patients be in different colours i.e. red for one department, blue for another, green and yellow for others. It may also be possible to print symbols of eye, ear, nose, X-ray on the cards and similar symbols may be painted prominently to identify concerned clinical departments.

6.05. Some patients are known to seek admission into the hospitals merely for diagnostic purposes. The Group is of the opinion that pressure of admissions on the indoor patient department at the hospitals could be greatly relieved, if arrangements for the stay of patients and their attendants in the vicinity of the hospital could be made either free or at nominal charges. There is no dearth of charity minded individuals or institutions in India and if approached such facilities could easily be provided by those. However, the Group is of the view that the control of admission to such places will have be with the Medical Superintendent of the Hospital. Provision for a cafeteria for the patient and their attendants may also be made.

6.06. Reliable data regarding the time spent by a patient at an O.P.D. is not available, but the Group saw that at most of the O.P.Ds, there was heavy congestion and long queues. On enquiry the Group was given to understand that on an average it takes a patient two to three hours for consultation, treatment and receiving medicine. Much of this time is taken in moving from one place to another and standing in queues for registration, examination and at the dispensing counter. The Group has no doubt in its mind that if adequate accommodation, medical and para-medical staff and other facilities are provided and procedure improved, the aggregate time needed at the O.P.D. would be considerably reduced. In the Safdarjang Hospital at New Delhi the system of seeing new patients between 8 and 10 a.m. and old patients thereafter between 10 a.m and 1 p.m. has resulted in reducing the congestion and saving of time. The Group recommends this system for trial by other hospitals. Further the establishment of satellite O.P.D. attached to the hospitals in areas served by large hospitals would reduce the pressure upon them. The Group recommends that satellite O.P.D. may be set up in the areas served by teaching and other large hospitals. The Group would, however, like to caution that the satellite O.P.Ds. would prove successful only if they are provided with adequate and qualified staff, equipment, diagnostic and specialist services and supervision by the hospital.

6.07. The Group found that at many places simple cases fit to be disposed of by the general duty medical officers are now being referred to specialists. In other cases the patients themselves directly approach specialists, even though they could be easily treated by the general duty medical officers. This encroaches upon the time of specialists and serious patients requiring special attention are to that extent deprived of the services of specialists. The Group recomends that the general duty medical officer should exercise better judgement and only refer such cases to the specialist which need his attention.

6.08. Besides providing facilities for consultation in cases of simple ailments and screening patients for admission to the indoor ward, the O.P.D. must also give urgent attention to emergency cases. They must also be used for imparting health education to the patient and his attendants. Family Planning, health and hygiene as a part of the patient's education should be initiated in the O. P. D. by the attending doctor/nurse. For this purpose, there should be a proper display of health education and family planning publicity material. Small pamphlets and books on family planning and on the preventive and curative aspects of diseases should be distributed to patients and their attendants in the O.P.D. There should be separate counters for the family planning work and preventive immunisation. Patients needing further advice on family planning which cannot be given by the attending doctor/nurse should be referred to the family planning counter. The integrated approach to treat the suffering humanity will fail, unless medical care is combined with preventive measures. It is, therefore, necessary that immunisation work should also be undertaken at the Out-Patient Department. This will tend to act as an impetus for the prevention of diseases and minimise the incidence of diseases. Sufficient stocks of Anti-Cholera, Typhoid and other freeze-dried vaccine should be maintained at these immunisation counters.

6.09. In teaching institutions, the Out-Patient Department is the mainstay of teaching to the undergraduates and internees. As the teaching activities are combined with the clinical examination of the patient, his diagnosis and treatment, much longer time is taken to prescribe for the patient than what would otherwise be necessary. It is, therefore, necessary that some sort of preliminary screening is done, so that cases deserving of importance in teaching are separated for explanation to the trainees and others. Thus, the other cases would be more quickly disposed off in the Out-Patient Department. The Group understands that most of the teaching institutions have separate lecture theatres and laboratory rooms where this procedure is being followed. The Group recommends that this system be extended to all teaching institutions where it does not exist.

6.10. To sum up, the Group recommends that an Out-Patient Department should have the following services:—

(a) Clinical
(b) Laboratory and radiological (round the clock)
(c) Dispensing of drugs and medicines, quickly without making the patient to wait for long.
(d) Health education and immunisation.
(e) Family Planning.
(f) Public relation.
(g) Dietic and nutritional.

6.11. *Emergency service and intensive care*—With the increase of road hazards, the need to have an efficient Emergency Service and Casualty Department at O.P.D. has become more pressing. The rising number of cardiovascular cases because of the hectic life of the community, growth of industrialisation and big cities also add to the needs of emergency services. Many a life could be saved if the doctor-on-duty acts quickly and with devotion and has at hand the ancillary and diagnostic services.

6.12. The Group has not been able to secure necessary data about the quantum of work load on the Emergency Department in a District Hospital by way of emergency cases needing intensive care. They, however, found that the Emergency Wards in the Casualty Department of the Irwin, Willingdon and Safdarjang Hospitals, where arrangements for emergency services exist, are practically always full and cases which the emergency wings had to tackle were numerous.

6.13. The Group estimates that out of every ten out-door patients one case needs emergency or intensive service. The Group, therefore, recommends that while planning the O.P.D. and the indoor wards, provision for the treatment of at least 10 per cent of the total number of patients expected to attend the O.P.D., should be made for emergency and intensive care.

6.14. In big cities with population of 10 lakhs or so, 10 per cent beds in teaching/district hospitals should be set apart for emergency cases. In other towns 5 beds in the district hospital, as recommended earlier in Chapter IV, would be adequate. There should be a separate ward called the "Emergency Ward", where emergency cases should be kept for 24 hours for immediate treatment before transferring the patient to the indoor ward, or discharged after fitness

6.15. The concept of emergency services implies that the time taken in rendering medical service to the patient should be cut down to the barest minimum. It calls for quick reporting of the patient at the emergency counter. In big cities and towns, taxi-cabs are available but in the smaller towns and semi-urban and rural areas quick transport is not available. Hence there is absolute necessity of an ambulance van to reach patients to the emergency counter.

6.16. Next in order comes the services of the doctor, nurses and the para-medical personnel. The Group is of the view that the practice of having common doctors for out-door and in-door patients, obtaining in O.P.Ds, will not work satisfactorily in the Emergency Department. The doctor and staff in the Emergency Department should be separte and be available round the clock. There should at least be two specialists always on duty—one Surgeon and another Physician. In addition, the services of other specialists should be readily available at call.

6.17. In most of the hospitals the out-patient and the Emergency Departments, wherever the latter exists, have to depend on the Indoor Department for radiological and pathological facilities. Even for E.C.G. the patient has to be referred to the Indoor Department. This causes delay in the diagnosis of emergent cases sometimes to a dangerous point. The Group recommends that the services of a technician in radiology, pathology, E.C.G. and Blood Bank should always be there at the Emergency Department. The teaching hospital should have a separate set up of these services but in District Hospitals, these technicians may be available part-time and on emergency duty.

6.18. There were complaints that sufficient quality of drugs and medicines, sterilized dressings, instruments and equipment were not always made available to the Emergency Department which made them helpless in the saving of the life of patients. The Group strongly recommends that the budget for drugs, medicines, instruments, equipment and dressings for the Emergency Department should be kept separate and be at least double that of other corresponding Departments. The Emergency Department should get first priority in the issue of drugs and that a special stock of drugs should be kept with the Medical Superintendent on which the Emergency Department could indent and this stock should never be allowed to run out.

## CHAPTER VII

## SPECIAL HOSPITALS

7.01. The need to have special Hospitals to provide highly specialised treatment for particular diseases and also by way of supplementing facilities at General Hospitals for certain specialities is now an accepted concept. According to the information collected by the Directorate General of Health Services the following were the numbers of institutions and bed capacity speciality-wise in the States in 1965. The detailed information State-wise may be seen in the Appendix XXII.

| Specialities | No. of Institutions including Hospitals, Homes, Clinics, Sanatoria etc. | Bed capacity |
|---|---|---|
| Cancer | 82 | 1,171 |
| Eye | 331 | 10,370 |
| Leprosy | 972 | 19,347 |
| Mental | 742 | 17,445 |
| Anti-rabic | 1,400 | .. |
| Tuberculosis | 757 | 34,487 |
| Venereal Diseases | 323 | 1,346 |

Besides, there is a growing trend towards increase of other diseases, like cardiovascular, virus and mental disorders, which need highly specialised treatment and for which Specialist Departments have since been opened in leading teaching and research institutions.

7.02. A perusal of the appendix would show that there is considerable disparity in the distribution of these specialist institutions. There are heavy concentrations of these institutions in Maharashtra, West Bengal and Madras, while in States like Madhya Pradesh, Rajasthan, Orissa and Bihar there is practically no specialised hospital for the treatment of cancer, and inadequate facilities exist for specialised treatment of other diseases. The Group would strongly recommend that preference should be given to the backward States in the matter of the establishment by the Central Government of new Special Hospitals and addition of beds for special diseases to existing institutions.

7.03. The Group found that some less complicated cases were admitted to Special Hospitals, which could easily be dealt with in General Hospitals. Such cases mostly came by direct admission. The Group would strongly recommend that the treatment in Special Hospitals should be limited only to referred cases and which need specialised attention of the highest order. Further, special hospitals should serve as centres for training in the specialities concerned and research.

7.04. In subsequent sections the Group have dealt with the following Special Hospitals:—

(a) Tuberculosis Hospitals;
(b) Mental Health Hospitals;
(c) Maternity Hospitals;
(d) Paediatric Hospitals;
(e) Cancer Hospitals;
(f) Ophthalmic Hospitals;
(g) Leprosy Hospitals;
(h) Infectious Diseases Hospitals;
(i) Dental Hospitals;
(j) Chronic and Convalscent Homes; and
(k) Rehabilitation Department.

### (a) *Tuberculosis Hospitals*

7.05. The National Tuberculosis Survey, conducted in years 1955-58, revealed that nearly 1.5 per cent of India's population or 75 lac persons suffer from active tuberculosis, of whom one fourth or 19 lac are sputum positive, that is infectious cases. This should give an idea of the magnitude of the problem. According to the available information, at the end of 1965 there were 68 T.B. Sanatoria with 12,060 beds and 82 hospitals with 14,447, 15 T.B. Centres with 395, 407 T.B. Clinics with 3,852 and 185 T.B. Wards with 3,733 beds aggregating in total to 757 T.B. institutions with 34,487 beds. Most of the districts in the country have one or more T.B. Clinic, but as many as 51 districts are still without Clinics. Among the States Madhya Pradesh is most highly deficit and 16 out of 43 districts have no T.B. Clinical facilities

7.06. It is obvious that clinical facilities for the treatment of T.B. are not only inadequate, but unevenly distributed. The Group has no doubt that this disparity must be reduced to the minimum, if not entirely eliminated. It recommends that there should be no district without a 100 bedded T.B. Clinic. In district where no T.B. Clinic is functioning, one T.B. Clinic with 100 bed-strength should be established. In districts where the bed-strength of the T.B. Clinic is less than 100, it should be raised to 100 by 1976. These clinics should be properly equipped and staffed and have adequate supplies of drugs and medicines. They should serve as nuclii for case finding, treatment and vaccination programme. They should fully mobilise the support of district health staff.

7.07. The Group is aware that even the increased bed-strength, as recommended, would provide very inadequate coverage for T.B. patients. However, keeping in view the limitations of available resources, they do not consider it feasible to increase the bed-strength further. Recent investigations have confirmed that most T.B. patients can be satisfactorily treated at home. The Group is given to understand that efforts are being made to popularise domiciliary treatment of T.B. patients and they would like these efforts to be further intensified.

7.08. The Group found that in some T.B. hospitals, the available bed facilities are not being properly utilised. In one hospital they came across a patient who had been staying there for 13 years. This, they trust, was an exceptional case, but there is no gainsay that the number of cases of overstay in T.B. Hospital is very large. Any misuse or improper use of our meagre resources must be put down with a strong hand. The Group, therefore, recommends that, as a rule, admission in T.B. Hospitals should be confined to (1) medical emergencies, (2) surgery cases, (3) sputum positive cases and (4) cases not responding to domiciliary treatment. As soon as a patient becomes fit for domiciliary treatment, he should be discharged from the T.B. hospital and given treatment at home. There might be left over some chronic cases, who, if they are allowed to mix with healthy people, may spread infection. For such cases T.B. Convalescent Homes or special wards in hospitals may be set up.

7.09. Further in order to achieve the best results, it is necessary that patients, who are chronic or not likely to be cured or who could take long time should be removed to the chronic homes or wards, where scale of services provided may not be of the same standard and where they could be looked after at lesser cost.

7.10. In the course of its visits to the States, the Group saw that both at the Taluq level and at the District level, the Taluq/District hospital and the T.B. Centre were functioning side by side independently of each other. There was no proper liaison between the two. There were X-Ray plants in both the hospitals and the facilities in duplicate were not being fully utilised. The Group recommends that the T.B. clinics/hospitals should run in close liaison with the Taluq/District Hospitals and the T.B. Centre should be under overall control of the Superintendent of the Taluq/District Hospital. The doctor-in-charge of the T.B. Clinic should act as specialist in the District Hospital

7.11. The Group also noted that at present there was not much of co-ordination between the Primary Health Centres at the periphery level and the District T.B. Centre at the District level. The Group recommends that after the case is detected and the treatment is prescribed, the drugs should be continued to be made available to the patient through the agency of the basic health worker working at the Primary Health Centre. Periodical checks will have to be made to check up whether the patient is responding to the treatment.

7.12. The T.B. programme depends upon a regular supply of anti-Tubercular drugs. The Group regrets to note that supply of streptomycin and other T.B. drugs was not available for months together. It greatly handicaps the treatment. The Group recommends that efforts should be made to give regular supply of anti-tuberculosis drugs to the patients attending the T.B. Centres or Clinics.

7.13. Strictly speaking the preventive activities included in the National Tuberculosis Programme, as such do not fall within the purview of our terms of reference, but as they have direct bearing on the set up of clinical treatment for T.B. cases, the Group would like to make some observations. According to the report of the T.B. Adviser, Government of India, up-to-date 248 million persons have been tuberculin tested and 105 million B.C.G. vaccinated. They have reached a stage when B.C.G. teams (216) should integrate with the T.B. clinics, so that regular immunisation coverage be extended to the entire susceptible population on a permanent basis. So far only 123 teams have been integrated with district T.B. Clinics. The Group is of the opinion that the new born babies should receive first attention and children with negative response, should be B.C.G. vaccinated. within 3 to 5 days of their birth. This can be more effectively done before a mother is discharged from the maternity hospital. Adequate provision of freeze-dried vaccine should be made available. Further the coverage of detection in the 0—25 years age group should be completed and contacts with negative response given B.C.G. vaccination. Conscious of the limited facilities for the treatment of T.B. cases available, specially in the countryside, the Group would recommend that immediately after rendering an infectious patient non-infectious, he should be put under domiciliary treatment. In the T.B. Programme, the role of Primary Health Centre should be to render treatment and follow up care to patients at home.

7.14. The Group found that non-official voluntary associations have done commendable work in the treatment of T.B. cases. Of the total number of 34,487 T.B. beds in the country they are maintaining no less than one third. The efforts of the Rama Krishna Mission at Ranchi and other places in this matter deserve special mention. The After-math Care T.B. Clinics being run privately in some big cities are also doing good work. The Group would like to acknowledge the substantial help extended by the UNICEF and W.H.O. for the control of T.B. by placing technical experts at the National T.B. Institutes and X-Ray laboratory equipment, mobile vans, INH and films at T.B. Clinics.

### (b) *Mental Hospitals*

7.15. Conditions in India as compared to the hectic atmosphere and fast living in western countries are comparatively different in respect of the incidence of mental health. However, due to rapin industralisation, break up of Joint Hindu family system, lack of social security and the stress and strain of life, the incidence of mental diseases is on the increase in this country also. It is, therefore, necessary that adequate arrangements are made in our district hospitals for early diagnosis and treatment of psychiatric cases. In the District Clinics great emphasis should be on the treatment of Outpatient cases as early detections and treatment in the district clinics will avoid pressure on the indoor mental hospitals.

7.16. Mental Health Services, according to the Bhore and Mudaliar Committees, were required for 1-2 mentally ill persons per thousand of population. If border line cases, neurotics, mental defectives and epileptics were included, the number would rise to 12—16 per thousand. A sample survey of mental morbidity in Agra and its surrounding areas undertaken by Dr. D. G. Dube, Superintendent of Agra Mental Hospital , in 1961, went to show that 18.13 per thousand population suffer from appreciable mental diseases. In the rural areas the number goes down to 14.25 per thousand population, but in industrial areas it goes upto 20 persons per thousand.

7.17. At the end of 1965 there were 38 Mental Hospials, 63 Psychiatric Clinics and 24 Child Guidance Clinics, besides two All India Institutes of Mental Health for post-graduate training in mental health. It is estimated that by the end of 1965, 120—140 psychiatrists had received diplomas or degrees in specialities and 86 psychologist post-graduates trained in clinical methods. Some specialists were trained abroad in psychiatry, psychology and occupational therapy.

7.18. There are now 18,000 mental beds in the country, which give a ratio of one bed for every 27,000 population. The W.H.O. have recommended that there should be one bed for every 10,000 population. The Group feels that keeping in view the paucity of resources, it would be quite sufficient if the present bed strength is doubled and the bed population ratio by 1976 raised to 1:15,000. Every District hospital should have a psychiatric clinic with a minimum of five beds. Emphasis should be laid on the out-patient treatment of psychiatric cases. The Group also recommends that the teaching hospital should have a psychiatric wing with 30 to 40 beds. Regional mental hospital with 300 to 400 beds should be set up for a group of 8 to 10 contiguous districts. It may be possible to raise some existing mental hospitals to the status of a regional hospital by increasing their strength to 300—400 beds. The Group suggests that mental cases should initially be treated in the psychiatric clinic at the district hospital and deserving cases referred to the psychiatric wing of the teaching hospital, or regional hospitals depending on the condition of the patients.

7.19. The Group recognises the acute shortage of medical and para-medical personnel for mental services. They recommend that the existing medical colleges should be expanded to train adequate number of doctors in mental sciences and the teaching hospital be utilized for training para-medical personnal Our attention was drawn to the detailed recommendations made by the Sub-Committee of the Mental Health Advisory Committee for improvement of mental hospitals, including ambulatory treatment. The Group generally agrees with those recommendations and would request the Central and State Governments to earnestly examine and implement them.

7.20. During the course of its visits to the States, the mental health experts referred to the difficulties experienced by them in treating mental cases due to certain defects and lacuna in the Indian Lunacy Act. It is understood that the Ministry of Health have already drafted a Mental Health Diseases Bill which has been circulated to the States. We recommend that the present Act should be replaced by a suitable Mental Health legislation to enable experts to give mental health care to the community.

### (c) *Maternity Hospitals*

7.21. The object of the maternity care is to ensure that every expectant mother maintains good health, bears a healthy child, has a normal delivery and learns the art of child care. It includes antenatal and post natal care of women. These objectives could be fulfilled only by a well-organised and properly spread net work of clinics and maternity hospitals throughout the country. It would require the services of a large number of qualified doctors and paramedical staff. As the bulk of the population lives in the countryside, it would be necessary to create suitable conditions, which may attract medical and para-medical personnel to work in rural areas.

7.22. It has been estimated that about two crores babies are born every year. This works out to about 60,000 babies born every day. On the basis of the average occupancy of maternity bed for 5 days, we would need about 3 lakh maternity beds for the country, if all maternity cases were to be provided institutional facilities. As against this we have only 45,000 maternity beds in 493 maternity hospitals and maternity wards of general hospitals.

7.23. We have elsewhere recommended that the strength of maternity beds should be raised to 70 maternity beds in each teaching hospital, 35 maternity beds in a District Hospital and 10 beds in Tehsil Hospital and at least 4 maternity beds at each Primary Health Centre. This makes up a total provision of about 67,920 beds as under:—

| | Number | Beds |
|---|---|---|
| At Primary Health Centre .. .. .. .. | 5,000 | 20,000 |
| Teaching Hospitals .. .. .. .. .. | 91 | 6,370 |
| District Hospitals .. .. .. .. .. | 330 | 11,550 |
| Tehsil Hospitals .. .. .. . .. | 3,000 | 30,000 |
| Total .. | | 67,920 |

The Group fully recognises that its recommendations regarding the increase in the number of maternity beds falls far short of the requirement of the rising population, but they have no alternative because of the financial limitations. The recommendations are based on the assupmtion that only such cases, that need hospitalisation, would be admitted in hospitals and ordinary deliveries should be done in the homes of the patients by qualified midwives.

7.24. The Group found that maternity and child welfare care fall very much below the standard and except in the teaching hospitals, the facilities offered are generally inadequate. The hospitals are overcrowded, understaffed and ill-equipped. The facilities and equipment for applying advance practices in the field of obstetrics and for isolating septic from clean cases in labour are missing in the majority of hospitals, as also facilities for special nursing care for cases of toxaemia, tetanus, peurperal psychosis etc. Facilities for the new borns specially for intensive care of the sick and pre-mature children, both are lacking in the majority of hospitals. Nursing care in the maternity wards and labour rooms is far from satisfactory. Instead of trained nurses, these wards are generally managed by midwives or even trained dais.

7.25. The maternity and child health should receive a high priority in our programme of health services. However, both in matters of training facilities and services, of midwifery and paediatrics, the necessary sense of urgency is wanting. Even in the urban areas, where provision for ante natal, midwifery, post natal, infant and child care facilities exist, unfortunately there is little coordination between them and system of follow up.

7.26. In 1965 there were 67,567 midwives and 11,412 Auxiliary Nurse Midwives and 299 institutions for giving training to Auxiliary Nurse Midwives with an yearly output of 6.560. The Group is of the opinion that there should be atleast one midwife for every 5,000 populaiton and as such by 1976 India would be needing 1,26,000 midwives/Auxiliary Nurse Midwives. The Group recommends that arrangements for training of these Auxiliary Nurse Midwives should be augmented. The training programme acquires greater urgency as midwives and Auxiliary Nurse Midwives would in future play an important role in controlling the population. Arrangements for the training of Midwives and Auxiliary Nurse Midwives should be made at the district hospital.

7.27. The traditional Dai of the village renders substantial service and care to a pregnant woman both before and after delivery. Besides she renders a number of odd services such as massaging the body. She also occasionally acts as a baby sitter. She enjoys a considerable influence in the rural families. However, the Dai is generally untrained and illiterate. Attempts were made in some places to replace the Dai with a qualified midwife or an Auxiliary Nurse Midwife but these attempts failed. The Group is of the opinion that the institution of the Dai should, at least for the time being, be maintained but it should be made compulsory for a professional Dai to undergo a course of training. During training they should be given a stipend similar to that of the Auxiliary Nurse Midwife. The Dai could also be utilised for propagating health measures for infants and children and for Family Planning.

7.28. Elsewhere in the Report the Group has recommended the establishment of paying wards in hospitals run by Government and voluntary organisations. For purposes of maternity the paying wards would have great attraction in the urban areas and as such they must be encouraged.

(d) *Paediatric Hospitals*

7.29. According to 1961 census, children below 15 years of age form just over 40 per cent of the population. This is reflected in the hospital statistics, which show that on an average 50 per cent of the patients attending the out-patient department, comprise of children. There are 8,590 beds reserved for children either in the Paediatric section of the general hospital or in 7 special Paediatric Hospitals. For want of sufficient number of beds in the children's wards, most of the children are admitted in general wards with adults. This practice deprives the child of special care and attention according to his need.

7.30. The Group has recommended in Chapter IV that not less than 50 beds should be reserved for paediatric cases at the teaching hospital and not less than 15 beds at the district hospital. It would raise the paediatric beds-strength in the general hospitals to about 10,000. Adding to this another 2,000 beds in special paediatric hospitals, the total bed strength comes to about 12,000. Even this figure would not meet the needs of the country. The Group, therefore, recommends that there should be atleast one special children hospital in each State attached to one of the medical colleges.

7.31 The children hospital should have a general section and a number of specialised sections such as Paediatric, Haemotology, Endocrinology, Neurology, Surgical Paediatrics, Orthopaedic Paediatric, Dental Services etc. Arrangements should also be made for development of super specialities and research in the field. All diagnostic facilities should be provided at the Children's hospital.

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(e) *Cancer Hospitals*

7.32. Investigations so far carried out by research workers indicate that every year on an average 85 persons in a lakh develop cancer and of them 2 lakh die annually. At present there are only 1,500 beds available in five cancer hospitals and cancer wards of general hospitals for the treatment of the disease.

7.33. The Cancer Committee appointed by the Union Government in 1966 went into details in regard to the Cancer problem in India and *inter alia* it recommended the establishment of regional centres for teaching, research and treatment of the cancer cases. There are at present 4 Cancer Centres at Bombay, Madras, Calcutta and Delhi. The Group recommends that these centres may be upgraded to serve as regional centres and an operational area be attached to each of them. Even so certain parts of the country will be left outside the easy reach of the regional centres and the Group further recommends that two more regional centres may be established one in Madhya Pradesh attached to the Bhopal Medical College and the other either at Varanasi or at some place in Bihar. The regional centres should receive only cases referred by the hospitals in the region. They would also train requisite personnel and conduct research.

### (f) *Ophthalmic Hospitals*

7.34. No systematic or scientific survey has been conducted in India to assess the incidence of eye diseases, but it is roughly estimated that about one million people are totally blind and about double the number partially blind. These figures exclude the cases of contract which can be cured. Most of the blindness occurs because of the after effect of Trachoma and Smallpox which can be prevented by a proper approach. This finds support from the Indian Council of Medical Research Survey of 1963 to study the geographical incidence of trachoma.

7.35. There are at present 11,000 ophthalmic beds and 6,000 eye specialists in the country. According to norms of some of the advanced countries, one eye specialist and one ophthalmic bed is needed for every 10,000 and 5,000 population respectively. Thus 500 million people would need 50,000 eye specialists and one lakh ophthalmic beds. The Group is given to understand that in U.P. more than half of the existing ophthalmic beds are maintained by voluntary agencies. The Sitapur Eye Hospital with its eight centres runs about 3,000 beds. The Group appreciates the excellent work done by voluntary agencies in the field of eye relief. We have no doubt that if the Union and the State Governments render financial assistance by way of loans and grants, similar work could be undertaken by private agencies at other places and recommends that suitable action be initiated in this direction.

7.36. With the implementation of all the recommendations already made, the relief in ophthalmic cases, particularly in the countryside, would remain extremely inadequate. The Group, would, therefore, recommend that mobile ophthalmic units, manned by the specialists of the district hospital, should hold periodic eye clinics and camps at Primary Health Centres. These units should be provided with necessary equipment and liberal supply of drugs and ointments. It would be the responsibility of the doctor-in-charge of the Primary Health Centre to see that aseptic conditions, sterilisation and post-operative care are adequately rendered and suitable arrangements for these facilities should be made at the Primary Health Centres. No camp should be held at any Primary Health Centre, where these facilities are not available.

7.37. We would like to emphasize the necessity of paying special attention to the eye diseases among school going children. There is no doubt that the incidence of eye diseases can be substantially reduced through a proper periodical check up, especially of school children. The Group recommends that the periodical check-up should be included as an important item in the School Health Programme.

### (g) *Treatment of Leprosy Patients*

7.38. Leprosy poses a problem of vast dimension. The highly endemic zone covers Madras and Andhra Pradesh. The moderately endemic zone comprising of Bihar, Maharashtra, Mysore, Madhya Pradesh, Uttar Pradesh, Orissa and West Bengal accounts for about 12 lakhs leprosy cases and the low endemic zones which covers the remaining part of the country accounts for 1.3 lakh leprosy cases.

7.39. Leprosy control work is being done through the Central Leprosy Training and Research Institutes (at Tirumani and Agra) control units and training centres. Sulphones for the treating of leprosy was introduced in 1949 and soon it became part of the Leprosy Control Programme. Thereafter emphasis in leprosy control was shifted from institutional to ambulatory care. There are at present 182 Leprosy Control Units, 872 S.E.T. Centres and 10 training centres for para-medical workers. Each Leprosy Control Unit is supposed to cover a population of about 3 lakhs. The S.E.T. Centres have been attached to Primary Health Centres as a step towards the integration of leprosy work with the general health services.

7.40. The Group has noted with appreciation the excellent work being done by voluntary agencies for the control of leprosy. They are running 32 Leprosy Control Units with the grant-in-aid from the Government of India. Four International Organisations are also participating in the National Leprosy Control Programme. The National Leprosy Programme has roughly covered 64.80 million population and examined 33.10 million persons, recorded about 6.8 lakhs cases as positive and about 6.2 lakhs persons are under treatment. There are 231 in-patient institutions with 28,000 beds at present functioning in the country.

7.41. The Leprosy cases can be treated effectively at an early age say before 10 years and the Group would recommend that special emphasis should be laid on the detection of leprosy in the School Health Programme for this age group. It would be ideal to segregate the children from leper parents but that would attach to them a social stigma and create psychological problems, nor is it possible to make complete arrangements for the large number involved.

7.42. Leprosy can be effectively controlled by the stimulating health consciousness, popularising personnel and environmental hygiene and giving prolonged sulphones treatment. People must be educated into the belief that leprosy is no longer an incurable disease. The Group, therefore, is opposed to enactment of any segregation law which would create new social problems.

7.43. In general the leprosy programme has been integrated with the Primary Health Centre but wherever it has not been so integrated, it should be done. The doctor-in-charge of the Primary Health Centre should maintain adequate stock of sulphones and obtain the services of a specialist at S.E.T. Centre wherever required for examination.

7.44. The doctor-in-charge of the Primary Health Centre and the paramedical staff working there should be given orientation training in leprosy from time to time.

### (h) *Infectious Diseases Hospitals*

7.45. The responsibility to deal with infectious diseases is that of the local bodies, who do the smallpox and cholera vaccinations and the State Government comes into the picture only when there is an outbreak of epidemic and at congregations in big melas and places of pilgrimage. The highly endemic areas of cholera are spread over 43 districts (10 in Andhra Pradesh, 7 in Bihar, 7 in Maharashtra, 6 in

Mysore, 5 in West Bengal, 4 in Madras, 3 in Orissa and 1 in Assam). In all there are 50 and odd Infectious Diseases Hospitals situated mostly in big cities and towns with a total bed strength of 3,000. Besides, there are isolation wards in General Hospitals.

7.46. The Group found that the conditions obtaining in the infectious diseases hospitals are deplorable. Their laboratories do not have adequate diagnostic facilities, drugs are in short supply, sterilisation of linen and bedding is non-existant and disposal of excreta far from satisfactory. The Group recommends that serious notice should be taken of this state of affairs and the shortcomings removed. The State Government should take over the responsibility of running infectious diseases hospital in highly endemic areas.

7.47. At the Primary Health Centres facilities to provide temporary shelters to I.D. Patients should be available. The Group, however, does not feel it necessary to provide permanent accommodation for isolation of cases at the Primary Health Centres.

7.48. In Chapter IV the Group has already recommended that a certain percentage of beds should be reserved for infectious patients in district and tehsil/taluq hospitals. It further recommends that cities with a population of 5 lakhs or more, should have a separate Infectious Diseases hospital with atleast 75—100 beds.

### (i) *Dental Hospitals*

7.49. Dental care has now assumed considerable importance, but facilities for training and services fall very much below the required needs. There are at present 14 Dental Colleges with an annual admission capacity of about 600. The dentists registered by 1966 number 5,673. It is proposed to have 2 more dental colleges raising the number to 16 with admission capacity to 1,000 by 1961. Dental care is at present available in teaching and district hospitals but not in hospitals of the lower-tier.

7.50. The Group feels that the proposed addition of two more dental colleges with 400 admissions would be adequate to meet the needs. The Group further recommends that fully equipped and staffed dental clinics should be set up at the District hospitals where they do not already exist. Besides the dental surgeon, the Dental Clinic should have a dental hygienist and dental mechanic.

7.51. Dental care of school children should be included in the School Health Service.

### (j) *Chronic and Convalescent Homes*

7.52. The Group found that some patients had continued to occupy hospital beds, when they did not need clinical aid. Patients suffering from chronic and incurable diseases were also allowed to continue their stay for long periods, as they did not have adequate facilities elsewhere to live. The Group recommends that for chronic and incurable patients, convalescent homes be set up in vicinity of a teaching hospital for the present and at the district hospital, if the funds permit. The problem of the patients who go to the hospital for investigation has already been dealt with in Chapter IV. The Group found that choultry near the hospital at Vellora for the stay of such patients and their attendance was serving the useful purpose of reducing the pressure on the hospital bed. We are given to understand that similar facilities are also available at some other places.

### (k) *Rehabilitation Department*

7.53. Rehabilitation services in India came into currency after the Second World War. Even so, relatively few hospitals maintain rehabilitation services, as they are very expensive and need considerable accommodation. The number of persons needing one or the other kind of rehabilitation service is large. The Group recommends that all teaching hospitals to begin with should maintain facilities for rehabilitation. These facilities should consist of (1) Medical Section (2) Physical Therapy Section (3) Occupational Therapy Section (4) Speech Therapy Section (5) Prosthetic Section. These Sections must be adequately staffed as they will be used for teaching undergraduate students and internees in the rehabilitation work. The Prosthetic Section should maintain a workshop for the manufacture of essential items like braces, artificial arms and legs, corsets, crutches etc. Although we do not, for the present, recommend the establishment of regular facilities for rehabilitation at the District hospitals, but we would like that at least one physiotherapist should be appointed there.

## CHAPTER VIII

## INTEGRATION OF MEDICAL AND HEALTH SERVICES

8.01. Prevention of disease as an objective medical programme should have precedence over the treatment of diseases. Prevention avoids unnecessary illness. It is cheaper than cure and is also complementary to it. Parallel medical and health services are wasteful and create unnecessary administrative problem of coordination, cooperation etc. Human personality is indivisible and it is desirable that problems of physical fitness are handled by a single set of officials. The integration of both curative and preventive services has, therefore, come to be accepted as basic principle of health activities. In a developing country like ours, where 80 per cent of the people live in the rural areas and where resources of men and material are limited, it is all the more necessary to have a unified approach to the problems of health of the community. With a view to achieve a balance in the distribution of medical care, it is necessary to have a unified approach to all problems of the provision of good medical and health care, under a single administrative authority.

8.02. The idea of integration of health services was first mooted in India in 1937 by the Central Advisory Board of Health. The principle was accepted also by the Bhore Committee in 1946 and was subsequently endorsed by the Mudaliar Committee in 1961. The recommendation was accepted in principle by the Central and State Governments. Its implementation has, however, varied from State to State. The Central Council of Health also appointed a Committee of Experts in the year 1965 to examine in detail the organisational problems in regard to integration and the recommendations of this Committee are reported to be under the consideration of the Government of India.

*Present position*

8.03. In the course of its visits to various States, the Group studied the working of medical and health services at various levels, i.e. State, Regional, District and the periphery. It was found that the nature and extent of integration of medical and health services vary from State to State.

8.04. *Central level*—Since 1947, the Director General of Health Services has been functioning as the single administrative head of both the Departments of Medical and Health. He combines the functions formerly exercised by the Director General of Indian Medical Services and Public Health Commissioner. In 1951, the Director General of Health Services was also put in charge of Family Planning and later in 1966, with a view to strengthen the activities, the portion of the office dealing with Family Planning was transferred to the newly created Department of Family Planning of the Ministry of Health, Family Planning and Urban Development, where there is now a separate Commissioner for Family Planning.

8.05. *State level*—The integration of curative and preventive health services, including family planning, has been carried out at the State level in all the States except in Madras and Maharashtra, where separate Directorates of Health and Medical Services still exist. The Group observed that in these States there were different officers looking after different medical institutions in urban areas and Primary Health Centres and National Programme in rural areas. One result of this division of work has been that no liaison or coordination could be established between Primary Health Centres and Hospitals at the Sub-Division and District Headquarters on the one hand and the National Health Programmes could not be seriously taken up for implementation in urban areas on the other. There is also no uniformity of approach in these matters at the State Directorate's level.

8.06. *District level*—Some of the States, having unified Directorates at the State level have yet to integrate the medical and public health services at the district level. Assam, Bihar, Kerala, Madhya Pradsh, Punjab, West Bengal and centrally administered Territories except Delhi have a single authority designated as Civil Surgeon or District Medical Officer to control and supervise all medical and public health activities in the State. He has also a Deputy to assist him. In other States they have the Chief Medical Officer, known as Civil Surgeon, to supervise the hospitals and the provision of curative services. There is also a separate District Health Officer dealing with public health activities including the implementation of National Health Programmes and Family Planning. He also supervises the Primary Health Centres including the provision of medical care there. There being two authorities at the district level, there is hardly any liaison or close coordination between the public health and medical work as a result of which both have tended to suffer. The hospitals are not involved in National Health Programmes and the Primary Health Centres do not get involved in a referral system of medical care. In the urban areas, the Urban Local Bodies have separate Health Officers of their own, who are responsible for sanitation and other health programmes in their areas. The Civil Surgeon, however, continues to be responsible for the provision of medical and curative services, which are by and large provided by the State Governments concerned. In most of the States, Health Officers of the Municipal Bodies work in isolation. In some States, such as Uttar Pradesh, Madras and Orissa, however, the Health Officer in urban areas is appointed by the Directorate of Health Services and in these States there is greater and more useful liaison.

8.07. *Primary Health Centres*—The Primary Health Centres are meant to integrate the curative and preventive services in rural areas in all the States. The officer-in-charge of the Primary Health Centre looks after the programme of public health through the agency of Sanitary Inspectors and the Basic Health Workers etc. Every Primary Health Centre is supposed to have 3 to 6 Sub-Centres. It has however, been noted by the Group that the Medical Officer is mostly interested in and keeps himself busy with the clinical work, not necessarily because of the heavy work-load on the medical side, but because he has little interest in the public health programmes like environmental sanitation, immunization, health education, maternity and child health care and family planning. Under the circumstances complete integration of medical and health services even in the Primary Health Centres is yet to be achieved.

8.08. The Group feels that the treatment of the siok, prevention of disease and family planning are integral part of the National health system and as such cannot be separated. The Group suggests that the curative and preventive services, family planning and maternity child health work should be integrated from the highest to the lowest operational level.

8.09. The Group is of the opinion that a dynamic concentration of medical facilities round about the teaching hospital having all the medical specialities and facilities for treating serious patients referred from lower-tier hospitals and the radial downward flow of active services from the teaching hospital to peripheral level through mobile teams of specialists are the essence of a well-organised regionalisation. The mobile team would provide not only the specialised services to the patients at the peripheral level and improve the standards of cure, but it would also educate local doctors, who by the nature of their posting have to work in isolation, into higher techniques. Details of Referral Services have been discussed in Chapter IV.

8.10. It is suggested that a single officer should be responsible for curative, preventive and family planning work at the district level. This officer would take the place of the present District Medical Officer of health and be designated as Chief Medical and Health Officer. He shall be assisted by two deputies, one on the public health side with the designation of Deputy Chief Medical and Health Officer (Health) and another on the Family Planning side with the designation of Deputy Chief Medical and Health Officer (Family Planning and Maternity Child Health). The present post of the District Family Planning Officer shall be abolished. The Chief Medical and Health Officer would be ex-officio medical superintendent of the district hospital and all other medical institutions in the district will be under his charge. All Civil Surgeons should be given three months orientation in public health, so that they work as Chief Medical and Health Officers effectively.

8.11. The Group is of the opinion that with the re-orientation of the medical officers of the Primary Health Centres and adequate supervision and guidance by the Chief District Medical and Health Officers, working of the Primary Health Centres will improve.

8.12. At present the Block Development Officer exercises administrative control over the Primary Health Centre and is the leave sanctioning authority for the staff of the Primary Health Centre, although the overall technical control over the staff is vested in the medical officer. The duality of control on the Primary Health Centre staff leads to looseness and inefficiency in the working of the Primary Health Centre.

8.13. The Group recognises the need for integration of different development programmes at the Block level and feels that there is need for giving greater authority to the Medical Officer-in-charge of a Primary Health Centre. The Group recommends that Medical Officer-in-charge of the Primary Health Centre should be made drawing and disbursing authority with powers to grant leave to his staff. He should be put in full administrative control of the entire health staff. He should approve tour programmes of the staff and his own tour programme should be approved by the District Medical Officer of Health. The Group does not apprehend that there would be any difficulties in implementing these proposals because funds for the Primary Health Centres are provided by the Health Department.

## CHAPTER IX

## STAFFING PATTERN AND REQUIREMENTS OF EQUIPMENT

9.01. In Chapter IV, the Group has recommended hospitals of different sizes for various levels. The related important question is that of the staffing pattern and equipment for these hospitals. The problem of staffing is highly complicated, depending on a number of factors such as standards of medical care (general, special and maternity, etc.) its bed strength, bed-occupancy ratio, hours of work, size of the building and premises, plan and arrangement facilities (physical, diagnostic and laboratory) and tre nature and number of emergency cases etc.

9.02. Information on most of these items is not available. Even in the advanced countries, material to determine the extent of influence of these items on the sizes of the hospitals is not available. However, the Hospital Equipment Standardisation Committee, (1963) appointed by the Union Government, have made recommendations on the staffing pattern of different sizes of the hospitals. These recommendations were examined by the Group and some modifications considered necessary have been suggested. The Committee also examined the question of equipment and appliances including the furniture required by hospitals of different sizes. These recommendations are reproduced in Appendix XXIV. We are informed that the Indian Standards Institute has evolved standards for a number of hospital appliances and instruments and the Group strongly recommends that no departure from these standards should be permitted in making purchases for equipping the hospitals. A list of these appliances is given in Appendix XLVIII.

9.03. Keeping in view the acute shortage of trained personnel with postgraduate qualifications and requisite teaching experience for medical colleges and the necessity to make full use of available medical manpower for the overall health and medical care needs of the country, the following staff is recommended—

*Staffing Pattern for a Hospital of 50 Beds*

| Name of post | No. of posts |
|---|---|
| Medical Officers .. .. .. .. .. .. .. | 2 |
| Lady Medical Officer (Gynaecology & Obstetrics) .. .. .. .. | 1 |
| Anaesthetist .. .. .. .. .. .. .. | 1 |
| Sister-in-charge .. .. .. .. .. .. .. | 1 |
| Staff Nurses .. .. .. .. .. .. .. | 8 |
| Dresser .. .. .. .. .. .. .. | 1 |
| Compounders .. .. .. .. .. .. | 3 |
| Clerk-cum-Storekeeper .. .. .. .. .. .. .. | 1 |
| Laboratory Technicians .. .. .. .. .. .. .. | 2 |
| Radiographer .. .. .. .. .. .. .. | 1 |
| Ward Boys .. .. .. .. .. .. .. | 4 |
| Cooks .. .. .. .. .. .. .. | 2 |
| Dhobi .. .. .. .. .. .. .. | 2 |
| Sweepers (2 male and 1 female) .. .. .. .. .. .. | 3 |
| Mali .. .. .. .. .. .. .. | 1 |
| Chowkidars .. .. .. .. .. .. .. | 2 |
| Ayahs .. .. .. .. .. .. .. | 5 |
| Peons .. .. .. .. .. .. .. | 3 |

*Staffing Pattern for Hospitals of* 100/200/300 Beds

| Name of post | No. of posts<br>For 100 beds | <br>For 200 beds | <br>For 300 beds |
|---|---|---|---|
| Surgeons .. .. .. .. .. .. | 1 | 2 | 2 |
| Physicians .. .. .. .. .. .. | 1 | 2 | 2 |
| Obstetricians and Gynaecologist .. .. .. | 1 | 1 | 1 |
| Ophthalmologist .. .. .. .. .. | .. | 1 | 1 |
| E.N.T. Specialist .. .. .. .. .. | .. | 1 | 1 |
| Paediatrician .. .. .. .. .. | .. | 1 | 1 |
| V.D. Specialist and Dermatologist .. .. .. | .. | 1 | 1 |
| Dental Surgeon .. .. .. .. .. | 1 | 1 | 1 |
| Anaesthetist .. .. .. .. .. | 1 | 1 | 1 |
| Pathologist .. .. .. .. .. .. | 1 | 1 | 1 |
| Radiologist .. .. .. .. .. .. | 1 | 1 | 1 |
| Biochemist .. .. .. .. .. .. | 1 | 1 | 1 |
| Registrars .. .. .. .. .. .. | 2 | 4 | 5 |
| Casualty Officers .. .. .. .. .. | 2 | 3 | 4 |
| House Surgeons .. .. .. .. .. | 5 | 10 | 15 |
| Dietician .. .. .. .. .. .. | .. | 1 | 1 |
| Matron .. .. .. .. .. .. | 1 | 1 | 1 |
| Assistant Matron .. .. .. .. .. | 1 | 1 | 1 |
| Nursing Sisters .. .. .. .. .. | 5 | 10 | 15 |
| Staff Nurses (with midwifery training) .. .. .. | 20 | 40 | 60 |
| Assistant Superintendent Stores .. .. .. | .. | 1 | 1 |

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| Name of post | No. of posts<br>For 100 beds | For 200 beds | For 300 beds |
|---|---|---|---|
| Storekeepers | 3 | 4 | 4 |
| Stenographers | .. | 1 | 1 |
| Senior Clerks | 2 | 3 | 4 |
| Radiographers | 1 | 2 | 3 |
| Accountant | 1 | 1 | 1 |
| Steward | 2 | 2 | 2 |
| Compounders/Dispensers | 5 | 8 | 10 |
| Junior Clerks | 4 | 8 | 10 |
| Telephone Operators | 1 | 2 | 3 |
| Operation Room Assistants | 2 | 4 | 5 |
| Peons | 2 | 6 | 7 |
| Daftries | 1 | 1 | 2 |
| Ward Boys | 3 | 6 | 8 |
| Nursing Orderlies and Ayahs | 10 | 40 | 60 |
| Havildar | .. | 1 | 1 |
| Head cooks | .. | 1 | 2 |
| Cooks | 2 | 4 | 6 |
| Chowkidar | 4 | 6 | 8 |
| Laboratory Technicians | 3 | 4 | 5 |
| Laboratory Assistants | 1 | 2 | 3 |
| Cashier | 1 | 1 | 1 |
| Head Clerk | 1 | 1 | 1 |
| Electrician | 1 | 1 | 1 |
| Sweepers | 1 | 1 | 1 |
| Mess servants | 10 | 15 | 20 |
| Staff for sisters/House Surgeons' Mess | 3 | 3 | 4 |
| Mali | 1 | 1 | 2 |
| Barber | .. | 1 | 1 |
| Carpenter | 1 | 1 | 1 |
| Plumber | 1 | 1 | 1 |
| Blacksmith | .. | 1 | 1 |

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## *Staffing Pattern for a Teaching Hospital of* 500 *Beds*

### (a) MEDICAL STAFF

| Name of the Department | Professor | Associate Reader/ Asstt. Prof. | Lecturer | Registrar | House Surgeons |
|---|---|---|---|---|---|
| Surgical | 1 | 2 | 1 | 3 | 4 |
| Medical | 1 | 2 | 1 | 3 | 4 |
| Obst. & Gynae | 1 | 1 | 2 | 2 | 3 |
| Opthalmology | 1 | 1 | 1 | 1 | 2 |
| E.N.T. | .. | 1 | 1 | 1 | 2 |
| Paediatrics | 1 | 1 | 1 | 2 | 2 |
| V.D.& Dermatology | .. | 1 | 1 | 1 | 2 |
| Anaesthesia | .. | 2 | 1 | 1 | 1 |
| Radiology & Radiotherapy | .. | 1 | 2 | 2 | .. |
| Biochemistry | .. | 2 | 1 | .. | .. |
| Microbiology and Seriology | .. | 1 | 1 | 1 | .. |
| Histopathology | 1 | 1 | 1 | .. | .. |
| **Total** | 6 | 16 | 14 | 17 | 2 |

### (b) PARA-MEDICAL AND MINISTERIAL STAFF

| Name of the post | No. of posts |
|---|---|
| Dietician | 1 |
| Matron | 1 |
| Assistant Matron | 1 |
| Nursing Sisters | 25 |
| Staff Nurses (with Midwifery Training) | 80 |
| Assistant Superintendent for the office | 1 |
| Assistant Superintendent for the Store | 1 |
| Store keepers | 4 |
| Stenographer | 1 |
| SeniorClerks | 6 |
| Radiographers | 4 |
| Accountant | 1 |
| Steward | 4 |
| Compounders/Dispensers | 15 |
| Junior Clerks | 16 |
| TelephoneOperators | 3 |
| Operating room Assistant | 8 |
| Peons | 10 |
| Daftaries | 2 |
| Ward Boys | 10 |
| Nursing Orderlies and Ayahs | 80 |
| Havildar | 1 |
| Head Cooks | 2 |
| Cooks | 8 |
| Chowkidar | 10 |
| Laboratory Technician | 6 |
| Laboratory Assistants | 4 |
| Cashier | 1 |
| Head Clerk | 1 |
| Electrician | 1 |
| Sweepers | 2 |
| Mess Servants | 30 |
| Staff for Sisters/House Surgeons Mess | 6 |
| Malis | 3 |
| Barber | 2 |
| Carpenter | 12 |
| Plumber | 2 |
| Blacksmith | 1 |
| Total: | 366 |

9.04. *Private practice*: In almost all the States doctors working in Government hospitals are allowed private practice in their off duty hours. Only the doctors in the Union Territories and under the Central Government are debarred from private practice, in lieu of which they are paid non-practising allowance as members of the Central Health Service. There is a difference of opinion on the matter of allowing private practice to Government doctors. One view is that all doctors working in Government hospitals should be debarred from the right of private practice and it is argued that some of the doctors take more interest in their private practice than in their duty in the hospitals and some of them are even running Nursing Homes. Hospital facilities are also sometimes misused for boosting private practice. On the other hand, it has been suggested that there is an acute shortage of medical personnel in rural, difficult and backward areas and in case Government doctors are debarred from private practice, it is the people who suffer for lack of availability of medical advice, as the doctors refuse to attend to them after duty hours. It has also been alleged that the attitude of some of the doctors in receipt of non-practising allowance towards the patients is not as helpful and courteous as it should be. A doctor is expected to develop personal interest in the patient and the doctor who has an eye on popularity with an ultimate aim of building up good private practice is more interested in a patient than one who has no such interest. Such a doctor also tries to keep his knowledge up-to-date and maintains high professional efficiency. It was also aruged that in difficult areas in spite of the grant of non-practising allowance, certain doctors are freely doing private practice thus defeating the very purpose for which non-practising allowance is granted. The Group considered the matter in all its aspects. It also took into consideration the financial implications of the grant of non-practising allowance by all the States. It has to be remembered that if the non-practising allowance has to be worthwhile and serve the purpose for which it is intended to be granted, it has to be at least at the rates sanctioned by the Government of India to the officers of the Central Health Service, that is 50 per cent of the salary subject to a maximum of Rs. 600/- per month. The Group is also conscious of the fact that in order to attract competent persons to certain categories of posts where there would be no scope for private practice, it is necessary to compensate the medical men by the grant of a suitable non-practising allowance. There are also certain posts where the right of private practice cannot be allowed as the same would interfere with the discharge of one's functions efficiently and would be detrimental to public interest. The Group recommends that private practice should be permitted to all Government doctors except that in the following cases an adequate non-practising allowance should be granted to the incumbents of the posts:

1. Doctors working on the health side.
2. Doctors working on laboratory and diagnostic services, such as Microbiology, Histopathology, Biochemistry, Radiology, Radio-therapy etc.
3. Doctors serving in teaching hospitals.
4. Civil Surgeons of the Districts and Medical Superintendents of hospitals.
5. Doctors working on research projects.

9.05. Whether doctors serving in the Directorates of Health Services in the State or at the Centre should be given a non-practising allowance is a moot point. In the Central Health Service all officers working at non-clinical and administrative posts are now getting non-practising allowance. In States different practices are being followed. We do not make any specific recommendation but leave it to the State Governments to take decision in this regard according to their resources and service condition.

9.06. The Group has already recommended that doctors serving in difficult and remote areas should be given a special allowance during the period of their posting at such places.

9.07. *Honoraries*: There is a difference of opinion also on the question of associating honorary doctors with the hospitals and teaching institutions. On the one hand, it is argued that the system of honoraries is economical and adds to the quality of health services. From the other side it is said that honoraries misuse their position and take more interest in deriving personal benefit out of their association with Government hospitals and teaching institutions rather than giving their best to them. By and large the consensus of opinion is against any system of honoraries. The Group, however, keeping in view the paucity of doctors and the availability of adequate resources recommends that the system of honoraries may be continued in places where whole-time Government doctors and Specialists are either not available or Government cannot afford to engage them for want of funds. There are some eminent persons who are known to be devoted to their profession and are prepared to work as honoraries, and the Group recommends that the services of such doctors, wherever available, should be utilised. Only such persons should be considered as are of repute and have wide experience and would not be tempted by virtue of their position and social standing to misuse their position in Government hospitals. Honoraries should be appointed only for a specific period or on contract on the session basis. The Group, however, recommends that wherever honoraries are to be appointed, the terms for their recruitment, conditions of work like hours of duty etc., should be clearly laid down and the honoraries should enjoy all the privileges and be subjected to the same discipline as whole-time doctors.

## CHAPTER X

## LABORATORY AND DIAGNOSTIC SERVICES

10.01. Investigative services have an important role to play in the development of clinical services. The hospital laboratories and X-ray department organised haphazardly as appendages to clinical departments cannot perform their due function in the dispensation of scientific medicine.

### (a) *Laboratory services*

10.02. The Group found that the stage of development of laboratory services in India varies from State to State and from area to area within the same State. In most of the States, laboratory services at the periphery are relatively few and in a rudimentary stage of development. Besides, the laboratory services have not been organized on a uniform pattern at all levels, *i.e.* Primary Health Centres, tehsil/taluq, District and Regional (teaching Hospital), although efforts are now being made to strengthen the services at district and peripheral levels.

10.03. Medical laboratories fall in two broad groups: (1) hospital laboratories which are concerned with tests for the diagnosis, prognosis and response to therapy of disease in individual patients; and (2) public health laboratories, which are concerned with the origin, spread and control of diseases in the community. The interest of hospital staff in the laboratory consists of using it as diagnostic tools for the individual patient and not as measuring rods of community health.

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10.04. The hospital laboratory is a valuable investment and an economic asset to the health services. Too often, false economy is exercised in the allocation of laboratory space by the hospital administrators, only too often they fail to realise the magnitude of reduction in running costs of a hospital that is made possible in terms of in-patients days by a well planned efficient laboratory Quick receipt of Laboratory reports would facilitate early diagnosis, reduce, hospital stay and permit a rapid patent turn-over. By an efficient service at Out-patients Department, the laboratory also reduces the number of patients admitted solely for laboratory investigations. These potential savings need to be overlooked when space, equipment and personnel for a laboratory are being considered.

10.05. The modern hospital diagnostic laboratory includes four main departments:

Microbiology and Serology;
Biochemistry;
Haematology and Clinical;
Histopathology.

10.06. Depending on the extent of the services to be rendered, each of the laboratories may comprise a varying number of sub-sections, *e.g.* exfoliative cytology, toxicology, blood transfusion, or others.

10.07. The section of haematology is primarily concerned with morphology of blood and bone marrow but has several sub-sections, the most important being a blood transfusion service.

10.08. The bio-chemistry section is concerned primarily with quantitative and qualitative bio-chemical estimation on blood and other fluids for the purpose of diagnosis. In certain teaching hospitals, facilities can also be made available for use of radio active tracer elements.

10.09. The Micro-biological section is an essential part of the hospital laboratory today. A further responsibility of this section and of the department of microbiology would be the investigation and control of hospital sepsis throughout the area. Sub-sections to deal with mycology and parasitology should also be established. The control of sterility in the central sterilisation and syringe service should be the responsibility of the department of micro-biology.

10.10. In teaching hospital the Histo-pathology and Morbid anatomy section can also involve supervision of the hospital autopsy services referred to above. In areas where this hospital is a part of frozen sections and exfoliative cytology.

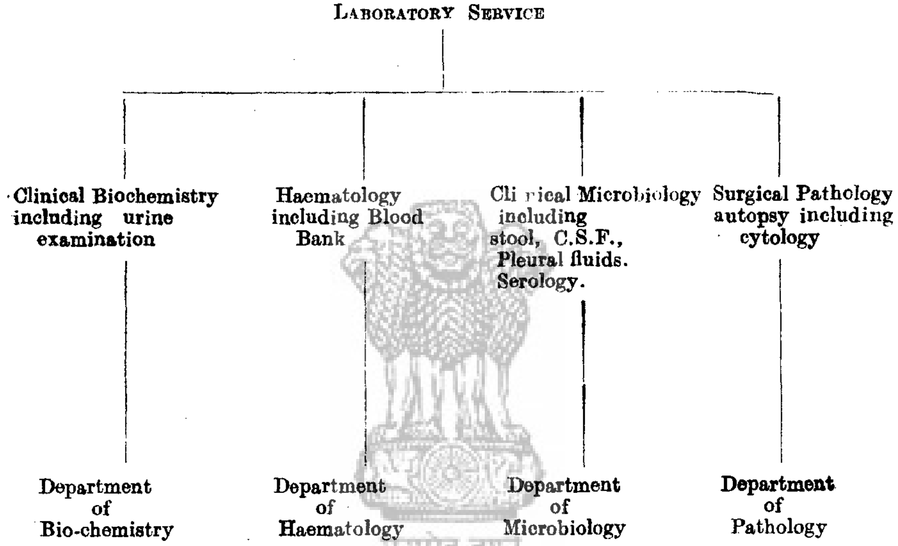
10.11. The Group recommends that hospitals with more than 500 beds should have a laboratory which is capable of handling all the service. This department also undertakes two other functions—*i.e.* teaching complex of a medical college, the heads of the departments of Pathology, Micro-biology and Bio-chemistry should be given overall charge of the hospital laboratory. It would be economical to entrust the work relating to Histo-pathology and Micro-biology to the parent departments in the college.

10.12. In hospitals with 200—500 beds the diagnostic laboratory should independently carry out work-relating to haematology-cum-clinical, bio-chemistry and micro-biology.

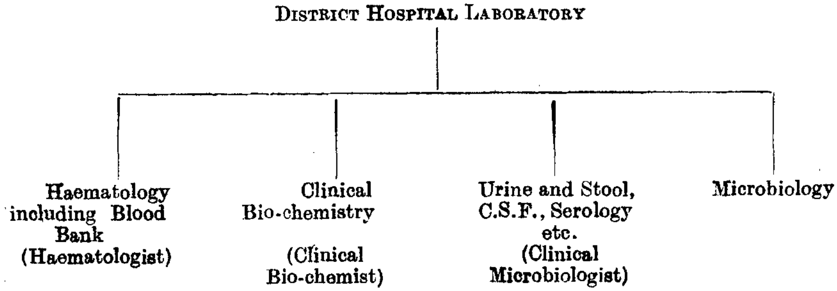
10.13. At the Tehsil/Taluq level the laboratory should be organised to do all types of routine clinical tests. At the Primary Health Centres the microscope and other laboratory equipment provided by the UNICEF should be utilised to carry out tests like stool, blood and urine.

10.14. The set up of the laboratories of a teaching hospital and of the district hospital should be as under:—

## TEACHING HOSPITAL


LABORATORY SERVICE
Clinical Biochemistry including urine examination
Haematology including Blood Bank
Clinical Microbiology including stool, C.S.F., Pleural fluids. Serology.
Surgical Pathology autopsy including cytology
Department of Bio-chemistry
Department of Haematology
Department of Microbiology
Department of Pathology

Each of these sections would be under the charge of a competent and well-trained officer with a complement of technical staff; but the responsibility for technical standards should rest with the parent department of the College as indicated above.


DISTRICT HOSPITAL LABORATORY
Haematology including Blood Bank (Haematologist)
Clinical Bio-chemistry (Clinical Bio-chemist)
Urine and Stool, C.S.F., Serology etc. (Clinical Microbiologist)
Microbiology

If resources do not permit, arrangements for such service may be made with the department of Pathology and Microbiology in a neighbouring teaching hospital.

10.15. In the matter of staffing pattern the Group suggests that the laboratories at the district level should work under the charge of a trained medical man assisted by 4 laboratory technicians, 2 laboratory attendants, a sweeper, and a clerk. At the tehsil/taluq level there should be one laboratory technician and one of the doctors should, in addition to his other duties, look after the laboratory. This doctor should be deputed to a District hospital for about six weeks training. At the Primary Health Centre, the staff employed for Malaria Eradication work should attend to laboratory testing work. The technicians, if necessary, be trained at the District Headquarters hospital.

10.16. The Group is given to understand that there are sufficient training facilities available in the country to train medical men in laboratory services, but enough medical doctors do not feel attracted to laboratory work. The Group, therefore, recommends that non-medical graduates in Bio-chemistry or Micro-biology may be employed to do this work. This is already being done in many hospitals.

10.17. In large hospitals the seneior pathologist should also act as the administrative head, but he should also retain personal responsibility for some aspects of technical work. There should as far as possible, be a fully qualified medical man at the head of each department. The departmental heads should, in addition to general training in pathology have sufficient postgraduate experience in the speciality of the department.

10.18. The backbone of any diagnostic laboratory service is the fully trained and registered technician. The number of such technicians to be employed would depend on the volume of work and the . ing in patrology have sufficient postgraduate experience in the speciality of the department.

(b) *X-Ray*

10.19. The department of radio-diagnosis is one of those departments, on which the demands have been on the increase. Hence there is need for liberal planning, to begin with, making allowance of space for expansion to meet future requirements. The X-ray department needs to provide services for in-patients, out-patients and casualties. It should, therefore, be sited so as to be readily accessible to, inpatient wards, the out-patient department, and the accident and emergency department.

10.20. In most hospitals the radiological department besides discharging the radio-diagnostic functions, undertakes treatment by radiography and diathermy. The Group found that in many hospitals there were much higher-powered X-ray plants than what was needed, while in some there were low power units or fewer units. The makes and standards of X-ray plants in hospitals vary from hospital to hospital. Cobalt units have already been supplied to some hospitals.

10.21. The Group recommends that the regional hospitals should have four X-ray plants—one of 300 to 500 M.A.; the second of 100 M.A.; the third a portable plant of 35—50 M.A.; the fourth a Dental X-ray plant. Besides they should have plants or machines for Diathermy, and lamps for ultraviolet and infra red.

10.22. In the district hospitals with 200 or more beds there should be one 200 M.A.; one 100 M.A.; one 35—50 M.A. portable unit and one for dental care unit. They should also be provided with lamps for ultraviolet and infra red. The tehsil/taluq hospitals should have one X-ray plant of 50 M.A. and lamps for ultra violet and infra red.

10.23. In large and busy hospitals, it may be desirable to instal an additional miniature X-ray set.

(c) *Radiotherapy*

10.24. Radiotherapy, in highly skilled hands, can accomplish wonders. In less-skilled hands, it can be a menace and an incorrectly planned course of treatment may lead to disastrous results. The key to radiotherapy is a team of highly trained and experienced staff—radio-therapists, physicists, and technicians. The existence of radiotherapy department no doubt, enhances the prestige of a hospital but keeping in view the limitations of resources, of trained and qualified men and material for radiotherapy, the Group recommends that radiotherapy should be confined to a few selected hospitals.

(d) *Radioisotopes*

10.25. Radioisotopes are used both diagnostically (as tracers) and therapeutically in medicine. As in the case of high-voltage radiation, their use must be controlled by highly skilled personnel or disaster may follow. The Group recommends that facilities for the use of radioisotopes should be limited to a teaching hospital where the services of qualified physicist; trained and experienced technicians; suitably equipped laboratory for handling the material, with counting apparatus for measuring radio-activity; and a protected room or cellar for storing excreta till they may safely be discharged are available.

## CHAPTER XI

## ANCILLARY SERVICES

11.01. Ancillary services have an important role to play in the efficient working of a hospital. It is the feeder services that go to make an impression which a patient carries and which enhances or detracts the reputation of a hospital. Mission hospitals enjoy a great name in this respect while Government hospitals are often criticised on account of indifferent quality of their ancillary services. More important of these are the following services:

(a) linen and its laundry.
(b) Dietary and food services,
(c) Sterilisation of supply and equipment,
(d) Pharmacy services,
(e) Hospital Library,
(f) Workshop,
(g) Medical records,
(h) Blood Bank, and
(i) Mortuary.

(a) *Linen and its laundry*

11.02. Linen in a hospital comprises of bed sheets, draw sheets, counter pins, towels, pillows and pillow covers, blankets, mattresses, aprons, doctors' coats and other clothings for the patient and the staff. In the matter of standards of sizes, measurements, material and tailoring different hospitals have their own standards. Criticism has generally been made that enough linen is not supplied to the hospitals with the result that it is not changed as frequently as it should be and that it remains dirty. Also, the clothing supplied to patients is generally loose and not up to the mark. In Appendix XXVI to this Report the standards of supply of linen in hospitals have been recommended.

11.03. During its visits to hospitals the Group found that sufficient linen was not supplied to wards. At times the linen issued was of wrong description *e.g.* in place of draw sheets, full sheets were used. The patients were found wearing their own clothes or sub-standard clothes. At one place half-pyjamas had been supplied to male patients in winter and torn sarees to female patients. The hospital staff were not in uniform while on duty, but used the uniforms outside the hospital.

11.04. The Group views these shortcomings with considerable concern and recommends that an officer of the hospital, that is the Matron or the Assistant Matron should be put incharge of this service; there should be proper classification of and terminology for linen; the clothing supplied to patients should be simple, economical, durable, clean and suited to the climatic requirements of the places.

11.05. As for uniforms for the staff, these should be kept in the hospital itself. The staff should be required to wear them while on duty and deposit them in the hospital when they leave duty, the hospital taking care of their washing and safe custody.

11.06. The Group feels that the present scale of supply of uniforms to the staff is adequate but, in addition aprons may be supplied. The Group further recommends that for purposes of identification the name and designation of the wearers should also be indicated on the apron/coat/uniform in the way considered suitable by the hospital authorities. In the opinion of the Group identification of every employee of a hospital particularly of big hospitals would lead to efficiency.

11.07. The Group has observed that at present the sister incharge of the ward is given the entire stock of linen; it is her responsibility to give the linen for washing and to receive it after it has been washed. Great deal of her time is thus consumed in counting, recounting, taking delivery and maintaining records. The Group, recommends the adoption of the Central Linen Room system instead. Under this system each ward sister will be provided with linen for a few days use only, say for two to three days and the used linen will be replaced twice or thrice a week. It will be the responsibility of the Central Linen Room to make adequate arrangements for both receipt and delivery of the linen to wards. Iinen will be supplied receipts and issues of damaged and condemned linen will have to be maintained by the Central Linen Room. Discarding or final condemnation of linen should be done once a month and adequate arrangements for repair and stitching of linen should be made.

11.08. It has been brought to the notice of the Group that the use of khadi as linen not only proves very expensive but also adds to the washing charges. Some Medical Superintendents were positively opposed to the use of Khadi in the hospitals. The Group recommends that the choice of the cloth for linen should be left to the hospital authorities.

11.09. Most of the hospitals in the country get their linen washed on the basis of a contract for bulk washing, while others employ their own dhobis and supply soap and other washing materials.

11.10. Only a very few hospitals do mechanical washing of linen. The Group is of the opinion that commercial washing has not proved satisfactory. The rates quoted by contractors are generally too low and the service inefficient and unreliable, resulting in considerable loss and damage to the linen. In case dhobis are employed and supplied with soap and material, the experience in Mysore State has been that while good service is assured it is uneconomical and in the rainy season the linen does not dry up quickly. Comparing the cost of washing of linen in the Delhi hospitals, the Group finds that in the Irwin Hospital, where washing is got done on a contract basis, the cost comes to Rs. 36.59 per thousand. In the Willingdon Hospital where dhobis have been employed the overall cost comes to Rs. 111.00 per thousand. In Safdarjang Hospital where mechanical washing is employed, the cost comes to Rs. 88.00 per thousand.

11.11. The Group recommends mechanisation of laundry in teaching hospitals where the quantity of linen is not less than 45,000 pieces per week. Wherever possible smaller hospitals should be grouped for this purpose. For District hospitals small units of mechanical laundry are recommended. Hospitals with less than 200 beds. *e.g.* Taluq Hospitals should employ small domestic washing machines. At the Primary Health Centres the service of a private dhobi would be economical. The Group also feels that if there are a number of hospitals in a city all the hospitals could combine to have central mechanical washing. In mechanical washing loss and damage to linen is reduced, regular supply is assured. and there is better administrative control resulting in reduction in pilferage. A plan of hospital laundry and a list of machines available in the country for setting up a mechanical laundry are given at Appendix XXVII.

11.12. In the matter of layout of a mechanical laundry of the three types, namely (i) Straight through (ii) U Flow and (iii) Gravity flow, the Gravity flow design has a decided advantage in as far as it prevents bacterial contamination. The laundry building should have a clear head dome of 14 feet and the necessary ancillary accommodation. The roof and other structures should be so built that they do not collect dust. The order of the structures should, according to work flow, be: (i) Reception; (ii) Sorting; (iii) Classification; (iv) washing hydro-extracting and drying; (v) Calendering and pressing; and (vi) Distribution. The area requirements of various sizes of laundry, details of equipment and requirements of water, steam and electricity are given in Appendix XXVIII.

11.13. It is further suggested that the linen sent for washing should be classified as (a) soiled linen (b) infected linen (c) foiled linen and (d) ordinary dirty linen. Coloured linen should be separated. Cotton linen and Woollen or synthetic fabrics should not be mixed up. Washing operations and formulae are given at Appendix XXIX.

11.14. The Group feels that ideally the linen should be changed every day, but keeping in view the need for economy it would recommend that it is changed at least twice a week. Soiled or infected linen and blankets should not be used.

(b) *Dietary and Food Services*

11.15. Eighty per cent of the meals provided in a general hospital to patients are ordinary meals while ten per cent constitute special diets and another ten per cent light diet or fluid diets. It should be possible to meet the needs of most types of patients by an intelligent/modification of the main dietary. In most of the hospitals all the cooking is done in one central kitchen which is often too large and not well equipped. The distance between the kitchen and the wards is often long and the food supplied to patients gets cold, less palatable and there is risk of contamination and infection. The solution of the problem lies in the decentralisation of cooking and the staggering of meal times. It is, however, recognised that in many hospitals such improvements would be hampered by staffing and administrative difficulties and finances. All the same, it is recommended that the morning and evening service of tea, snacks and milk should be decentralised. Some standards for diets for patients are given at Appendix XXX.

11.16. The Group strongly recommends that it should be the duty of the dietician to ensure that therapeutic diet is supplied to patients. A hospital with 200 beds or more should have whole-time dietician. In hospitals with less than 200 beds one of the sisters, who has basic knowledge of diets, should, after being trained, put incharge of diet. She may be given a special allowance. Menu for the hospital should be the responsibility of the dietician and should be drawn up in the light of climatic requirements, economic consideration and practical management. The same menu should not be repeated every day and variety should be introduced. Occasional visits by the dietician to the patient will help in drawing up a popular menu which give greater satisfaction to the patients.

11.17. In the matter of food servicing the Group recommends that the trolleys insulated with saw dust should be designed and used for carrying food so that it keeps hot and stainless steel thermo jars with a tap should be used for tea and milk. The design of such a trolley is at Appendix XXXI.

11.18. The Group recommends that the hospitals should have neat, clean and spacious kitchens preferably on the ground floor. Good glazed china should be used, which should be withdrawn when chipped or cracked. The use of stainless steel utensils is recommended, while the use of aluminium utensils should be avoided. The use of cooking gas or where it is not available smokeless *chullahs* is recommended. The design of the kitchen is at Appendix XXXII.

11.19. Except in the case of indigent patients or patients whose relatives and friends are not at hand, most of the relatives and friends of the patients generally like to supply their own diet to the patients. Special diets which the doctor may recommend have to be supplied by the hospital. From the information received from some hospitals, the cost of diet per patient per day comes to Rs. 1.75. To bring down the cost wastage, misuse and pilferage have to be eliminated. Economy in the purchase of food stuffs, their preparation and distribution could be affected by a proper system of accounting, checking of store purchases, proper storing of raw materials, an effective requisition system, and distribution through the authorised persons. These measures should eliminate waste and pilferage.

(c) *Sterilisation of Supply and Equipment*

11.20. Great stress has been laid in recent years on the problem of prevention of hospital infection. It has not been possible for the Group to find out the incidence of cross-infection in the hospitals of various sizes in the country. It is, however, a well established fact that it constitutes a significant and serious problem. The causes of crosss infection in hospitals are over-crowding, lack of attention to principles of hygiene and asepsis in wards and operation rooms and the methods adopted for cleaning the wards and theatres. It has been reported to the Group that in a majority of hospitals infections are caused by micro-organism like Staph-pyogenes, streptococci, E.Coli, Klelsiella group and proteus P. pyocyanea.

11.21. The Group recommends that a standing committee for prevention of infection should be constituted in every hospital consisting of the chief of surgery, chief of medicine and the microbiologist to constantly and regularly review the position regarding the sterilisation of equipment in the Central Sterilisation Department and the operation theatres. The problem of cross-infection and its elimination should be constantly kept under review. The above Committee should issue necessary instructions to the staff of the operation theatre, Central Sterilisation Department, wards and dressing rooms etc., and the visitors that overcrowd the post-operative recovery wards.

11.22. The Group found that although the practice of sterilisation of supplies and equipment differs from hospital to hospital, the trend is towards central sterilization. Fuller understanding of the advantages of central sterilisation system and co-operation of all the departments concerned are essential elements if the central sterilisation service is to function properly. The Group feels that setting up of a central department for the maintenance, sterilisation and storage and supply of all the sterilised materials including dressings and instruments used in various clinical departments of the hospitals would contribute to a substantial reduction in the incidence of hospital cross-infection. It would reduce the work-load of nursing staff in various units and operation theatre. The establishment of Central Sterilisation Service would also result in better care of instruments and fewer losses because of better control.

11.23. It is very essential that personnel employed in these services should be fully conversant and well trained in the methods of packing and sterilisation and also in the over-all organisation of the department.

11.24. The Group recommends that the Central Sterilisation Supply Department (C.S.S.D) should be organised in all the hospitals with a bed-strength of 200 or more. In hospitals with less than 200 beds setting up of the Central Sterilisation Unit would depend on local conditions and work-load. The Group further recommends that wherever possible, sterilisation facilities should be established at larger hospitals and at hospitals at a lower tier for Primary Health Centres. For example all dispensary and primary health centres should have all their equipments, dressings etc. sterilised by a district hospital.

11.25. The Group views with concern that blankets and other woollens are not properly disinfected or sterilised. In some hospitals they are subjected to ordinary washing process. Since they are highest source of cross-infection, it is recommended that in case of patients with infectious disease, sterilisation of blankets and even of mattresses is a must and it should be done under high pressure steam. To protect blankets against moth attacks, after drying, dichlora benzene flakes should be sprinkled and they should then be folded and wrapped in grown papers in bundles of not more than five.

11.26. The Group anticipates certain difficulties that might be experienced in setting up the C.S.S.D. One common difficulty is that the instruments and equipments, especially syringes and needles get mixed up and it takes a lot of time to sort them out. The Group recommends that as far as possible such equipment should be adequately standardised and parts made interchangeable.

11.27. In the planning of the C.S.S.D. there is need to make allowance for marginal expansion in future. In a multistoreyed hospital, the C.S.S.D. may be placed in the lowest floor, right under the operation department so that transaction of material becomes easy, involving only verticle movement.

11.28. The C.S.S.D. should be connected with all departments with telephones and provided with adequate sanitary facilities.

(d) *Pharmacy Services, system of stocking and issuing of drugs.*

11.29. For one reason or another, Government Central Medical Store Depots are unable to meet fully the demands of the State hospitals. The Medical Store Depot functions on a commercial basis. It is recommended that each State, as far as possible, should resort to direct procurement from the manufacturers of those items, which experience has shown, are not readily supplied and are not likely to be supplied by the Depot within a reasonable period. This procedure, the Group feels, will result in a measure of certain economy. To give effect to this recommendation an organisation known as the 'Non-store holding purchase organisation' be set up in all the States to coordinate the demands from various hospitals, primary health centres etc., to institute rate enquiry and to establish a rate contract with the manufacturers direct. This organisation will consolidate all demands, big or small, of various items from the hospitals and primary health centres and then settle a rate contract with the suppliers/manufacturers on a competitive rate. In the interest of economy demand for larger packings of tablets, pills, capsules and ointments etc. should be encouraged. The Non-store holding purchase organisation at the State level will consolidate all the demands district-wise and make supplies to the District Hospital from where the drugs and equipment will be supplied to Tehsil/Taluq dispensaries and Primary Health Centres in the district.

11.30. For package indents for smaller hospitals the pattern of Mysore State which is given in Appendix XXXII-A is recommended. Medicines should be stocked for a minimum period of six months to ensure uninterupted supply to patients, in case the supply is interupted on account of unforeseen circumstances.

11.31. The Central Purchase Organisation should issue policy directives on indenting, stocking, accounting, stock verification, write off losses, accounting of short life items and store preservation from time to time, to all the institutions served by it.

11.32. *Quality control*—An organisation which will ensure quality control of drugs supplied to the hospitals, primary health centres etc. should be established. It will ensure that the tenders are accepted only from the firms whose quality control measures are found to be satisfactory. The drugs supplied by the suppliers may be tested from time to time.

11.33. *Stocking*—Stores Organisation at the district level is of paramount importance and it is essential to have a comprehensive vocabulary of drugs, equipment, appliances arranged strictly in alphabetical order and marked with serial numbers for identification purposes. The items should be classified under drugs and medicines, surgical instruments and appliances, hospital furniture/equipment, dispensing and nursing appliances etc. Information about drugs, appliances and equipment which are to be supplied direct by the manufacturers should be notified from time to time to all concerned.

11.34. As far as possible stocks should be arranged in steel racks and cup-boards arranged in alphabetical order and serially numbered. All vaccines and injections requiring cold storage should be kept in refrigrators. Valuable and poisonous items should be kept under the custody of a responsible officer. For each such item a bin card should be maintained to record the daily consumption and balance.

11.35. *Procedures at the periphery*—When supply is received by an indenting institution, the receipt of each item should be entered in the respective ledgers.

11.36. Issues of drugs, appliances and equipment to various branches of institution should be promptly entered in the issue columns and the balance shown against each entry.

11.37. Each receipt and issue should be initialled by the concerned officer.

11.38. *Internal audit*—To keep a check on expenditure internal audit both of the main store and stores of the institutions should be undertaken atleast twice a year.

11.39. A separate record of life items should be kept in the Main Medical Store and the peripheral store to ensure that these are utilised before the expiry date.

11.40. It is sometimes alleged that some of the drugs and medicines available in the market are very expensive and are not prepared from genuine material. To ensure quality and obtain economy a small pharmacy should be set up in all the teaching and district hospitals so that all the commonly required formulations could be manufactured there.

11.41. Qualified chemists should be employed in the hospital pharmacies. After considering the proposals of the Indian Hospital Pharmacists Association, the Group recommends that the following functions may be assigned to hospital pharmacies:

(a) Compounding and dispensing of medicines for in and out patients;

(b) Supervision of the work of the dispensing pharmacists;

(c) Preparation of solutions and other pharmaceutical preparations so as to effect economy in the budget to the hospital.

(d) Responsibility for storage, distribution, stock keeping and inspections of drugs.

(e) To train pharmacists and other para-medical personnel.

11.42. The Group is not recommending a pay scale for the pharmacists, and leaves it to the decision of the hospital authorities depending on the size of the hospital and work load etc.

11.43. In regard to floor space and other requirements for a hospital pharmacy, the Group recommends that there should be enough space for dispensing, storage and office.

11.44. A list of medicines that could be easily manufactured in a hospital pharmacy is given at Appendix XXXIII.

11.45. The Group after discussions with some outstanding doctors of the States was convinced that there was over-medication to a large extent throughout the country. This unnecessarily increases the cost of medical care. The prescribing habits of the doctors need to be orientated towards economy. It is understood that in the U.K. periodic surveys of the prescribing habits of the doctors are made by specialists and guidance given to them. The Group recommends that in every big hospital, particularly in a teaching hospital, there should be a Committee consisting of specialists to meet periodically and to examine cases of misuse and excessive use and prescription of medicine. A Prescribers' Journal should be started by the Government of India to start with to provide guidance to the medical practitioners in Government service as well as outside.

11.46. The Group has found that doctors in the hospitals invariably prescribe branded patent and proprietary medicines, which, if supplied by the hospital, inflate the drug bill. In order to reduce the cost of medicine the Group recommends that the basis of treatment in hospitals should be the National Formulary. The use of branded and patent medicines should be discouraged. The treatment should be prescribed by pharmacopea or generalic name. However, in special cases the physician, in the interest of the patients, may exercise his discretion.

### (e) *Hospital Library*

11.47. The Group, in the course of their visits to hospitals, found that medical libraries in most of the teaching hospitals were quite satisfactory. It recommends, however, that Patients Library should also be developed in these hospitals with the help of voluntary organisations and social workers. This library should have light reading and pictorial material, magazines, journals and periodicals and literature on dietary, nutrition, health education particularly to relieve the monotony of long-stay patients.

11.48. At the district headquarters hospitals also there should be a fairly good library and doctors working in other hospitals of the district should be entitled to enrol as members of this library and to borrow books. Some medical and professional journals should also be made available in other hospitals and primary health centres. A system of circulating among the medical and professional men journals which are rare and published in foreign countries should be established. If possible extracts of important material may be duplicated and circulated.

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### (f) *Workshop*

11.49. The Group found that costly equipments and appliances like X-ray machines and other electronic and audioscopic equipment remain idle in a number of hospitals for want of repair facilities. At one of the hospitals visited it was found that an X-ray machine had remained uninstalled for the past 12 years for want of proper technicians. The manufacturers and suppliers of costly machines and plants differ from State to State and even in the same State from hospital to hospital, with the result that it has become difficult to provide technicians to repair machines from different manufacturers. The Group has further been given to understand that whenever a machine is imported from abroad although the suppliers give a guarantee for repairs, in actual practice this was usually not undertaken. The Group, therefore, recommends that one workshop or more, depending upon the size of the State, should be set-up to repair machines and equipments. There should be a team of travelling technicians attached to the workshop who should visit hospitals periodically, check-up machines and repair them on the spot or bring them to workshop if major repairs were called for. The facility of consulting technicians should also be available. The Group also recommends that high priority should be accorded to the import of important parts and accessories needed for repairs. While indenting of equipment the State Governments should try to ensure that the same brand of equipment is ordered for all the hospitals.

11.50. Lastly, the Group recommends that hospital authorities should send a certificate to the Health Directorate periodically to the effect that all the machines in their hospital are in working order and the equipment which needed repairs has been either sent to a workshop or a technician had been called to repair the machine. Plants and machines declared unserviceable or unfit and irreparable should be pooled together and disposed of by the State Government and not kept in hospitals unused.

11.51. The Group further recommends that a repairing cell consisting of the following staff should be set up in hospitals of a bed strength of 200 and above to undertake minor day to-day repairs:

(i) One Blacksmith;
(ii) One Painter;
(iii) One Carpenter;
(iv) One Electrician.

### (g) *Medical Records*

11.52. The Medical Records Department is the vital link between the hospital and the public, which keeps on record the full details of every patient from the time he enters the hospital to the time of discharge. This department is the custodian of all the data of the progress of a case from day to day, and preserves the clinical notes and details of investigations, treatment and advice tendered at various stages during the patients' stay in the hospital. These records are of immense value for reference on subsequent occasions if needed. There are occasions when these may also be needed in courts for medico-legal proceedings. Moreover they provide good material for research, for evaluation of services and for statistical studies relating to morbidity and mortality pattern. Thus the importance of maintaining a proper record department can never be exaggerated.

11.53. To maintain medical records of all patients a hospital would need large space and staff. This is also not necessary. The Group recommends, therefore, that cases to be recorded should be marked by the doctors. Patients having common diseases need recording only by way of numbers. In respect of patients suffering from acute or special diseases full record should be maintained. Weeding out of old records should be undertaken every ten years but records of important cases may be kept longer.

11.54. The Group recommends that in the teaching hospitals which provide post-graduate studies medical records should be kept in a precise manner, with proper indexing and preserved in bound volumes or in microfilms where felt necessary. In district hospitals with 200 beds or more there should be a simple method of record keeping. In hospitals where the bed strength is 50 to 100 and where there are no specialists and where students do not go for post-graduate studies or research, only reports of cases attending the hospitals, their number, incidence of diseases etc. may be compiled.

11.55. The Group suggests the following staff for the Medical Records Department in a teaching hospital with 500 beds or more:

(i) Medical Record Officer—1

(ii) Medical Record Technicians—2

(iii) Such other clerical and subordinate staff as deemed necessary.

For hospitals with 200 to 500 beds there should be only one Medical Record Technician and one of the medical officers in the hospital should be made responsible for the medical records department. Also the necessary clerical and class IV staff may be provided.

11.56. The Group further recommends that the indexing of medical records should be on the pattern of International Classification of Diseases so that statistics of diseases could be collected on a uniform basis. Classification should be undertaken disease-wise and organ-wise. The Group feels that in the matter of compilation close coordination is necessary with the Central Bureau of Health Intelligence (Directorate General of Health Services).

11.57. The Group found that the Vellore Hospital provided training in record keeping but had capacity for turning out only four Medical Record Officers and ten Medical Record Technicians annually. It is understood that another training centre will shortly be opened at the Safdarjang Hospital. The Group recommends that more training centres for the training of Medical Record Officers and Medical Record Technicians should be opened in teaching medical colleges.

### (h) *Blood Banks*

11.58. The Group found that, by and large, bigger hospitals with or without teaching facilities, have their own blood banks. Most of the banks attached to the teaching institutions are fairly well equipped but there are many smaller institutions where the minimum facilities are still wanting. The Group feels strongly that a deficient blood bank service leads to lowering of standards and results in serious risks to patients' lives.

11.59. Most of the blood banks depend for their supply of blood on professional donors. The Group is of the opinion that every effort should be made to educate the public so that more voluntary and relative donors are forthcoming. The friends and relatives of patients should be persuaded by doctors to donate blood.

11.60. The Group recommends that all hospitals with 200 or more beds should have blood banks with the requisite staff, equipment and voluntary donor organisation.

11.61. The staffing pattern will differ according to the bed-strength of the hospital. Staff for two classes is recommended as under:—

| Staff | 200-499 beds | 500 or more beds |
|---|---|---|
| 1. Medical Officer | 2 | 3 |
| 2. Technician | 4 | 8 |
| 3. Nurse | 1 | 2 |
| 4. Laboratory Assistant | 3 | 5 |
| 5. Sweeper | 1 | 2 |
| 6. Clerk | 1 | 1 |
| 7. Driver | 1 | 1 |
| 8. Cleaner | 1 | 1 |
| 9. Blood Donor Organiser (full time paid) | 1 | 1 |
| 10. Voluntary blood donor organisation | Essential for both | |

With the above staff it should be possible to have normal working hours between 9 a.m. and 4.30 p.m. Outside these hours a technician should remain on duty to call the doctor if need arises.

11.62. In the blood bank accommodation should be provided for the following—

1. Reception Room office,
2. Medical Examination Room,
3. Blood Donation Room,
4. Rest Room,
5. The Blood Bank Laboratory,
6. Room for Blood Storage,
7. Cleaning and Assembly Rooms,
8. Room for Autoclaves and distilling water,
9. Sterile Room,
10. Medical Officers Room,
11. Social Worker's Room, and
12. Store Room.

11.63. It may be recalled that in order to provide specialist services to the people in remote areas, a scheme of referral system has been suggested in Chapter IV on Organisation of Medical Facilities. Under this system the teaching hospital will serve as a regional hospital and meet the requirements in respect of specialist consultation of all lower hospitals in the four or five adjoining districts. It is suggested that blood banks in the teaching hospitals should similarly serve the needs of all lower hospitals in the districts. The duties of the blood banks in the teaching hospitals would be to supply blood to all the hospitals attached to it. These blood banks will also supply alongwith the blood, appliances required for giving blood transfusion. The institutions attached to the teaching hospitals need only have refrigeration facilities and dust-free accommodation for the storage of equipments.

11.64. The hospitals with less than 200 beds should also draw up panels of blood donors who can serve the needs of the institutions as the occasion arises. The work in this connection can be taken up by a trained medical officer attached to the Pathology Department.

11.65. The Group found that Blood Banks in most of the hospitals do not have a proper system of documentation, for the transfused cases. This is a serious shortcoming. Proper forms, adequate number of cards and propaganda material should be available at the office of the Blood Bank. Maintenance of records of donors and recipients is necessary and this work should be done by clerks instead of technicians.

11.66. In most hospitals the Blood Banks are not provided with transport. The Group feels that it will be helpful if they are equipped with a utility van, which can serve as a "multipurpose vehicle" for transporting donors, blood donation teams and social workers. When free from donation work, the vehicle can be used for propaganda purposes and for blood collection.

11.67. The Group recommends that the Ministry of Health may appoint a small committee of experts to lay down standards for the collection and storage of blood and for techniques of grouping and matching.

### (i) *Mortuaries*

11.68. Hospitals have moral and legal responsibilities in the disposal of the dead bodies. There are legal requirements and statutory orders on the subject, but the Group found that in most of the cases they are not adequately carried out with the result that the hospital authorities and staff have to face considerable criticism and the hospital suffers in reputation.

11.69. Deaths in hospitals are to be notified by the doctor last attending a patient indicating as to what he believes to be the cause of death or alternatively that he does not know the cause of death. Notice or information of the death of the patient has also to be delivered to one of the relatives as early as possible. It is after a specific time lapse, in most of the States in India it is 48 hours, that a dead body is to be declared as unclaimed. This calls for the pointed attention of the doctor on duty to record the full particulars of the relations or friends of the patient at the time of admission. In case no known person accompanies the patient at the time of admission, it is necessary to keep a watch on those who come to meet him and obtain the necessary information. Any negligence on this point leads to complications in the event of the death of the patient.

11.70. After the death of the patient the dead body is sent to a separate quarter which is commonly known as the mortuary. It is here that a dead body is kept in proper condition, shape and position so that it does not get putrified, disfigured, mutilated or becomes unrecognisable till it is disposed of in the manner as laid down in law or under standing instructions of hospitals administration. The Group found that in most of hospitals adequate facilities for the efficient running of this service are not available. The mortuary room is usually located in one corner of the hospital campus and in most cases it is ill-kept. Mortuaries at most places are neglected. They suffer from adequacy of staff and equipment and inefficient management. The depressing atmosphere adds considerably to the task of medical officer called upon to perform autopsies. Most autopsy suites do not have waiting halls for the relatives of the dead who have to wait for hours in anguish. These deficiencies do not add to prestige of the autopsy services in many centres in India. This may be one of the important reasons why the autopsy rate is very low even in the best institutions in India.

11.71. Mortuary service is required to perform various functions, the important of these are given below:—

(a) To keep dead bodies till handed over to relatives;

(b) To keep unclaimed dead bodies till disposed of by the hospital authority or handed over to a religious or chartiable body;

(c) To provide facilities for Pathological Post mortems;

(d) To provide facilities for medico-legal post mortems; and

(e) In teaching hospitals to provide facilities for demonstration of post mortems.

11.72. Medico-legal post mortems are done at the instance of the police. In many cases administration of justice depends on the post-mortem report. The doctor who performs the post-mortem thus delays a most important part in legal proceedings. It is his moral and legal duty to exercise his skill and ability in a most equitable manner undeterred by pressures or approaches. Post-mortems undertaken for pathological purposes for teaching and research are meant mostly to find out the cause of death and to train the students. It is reported, however, that the handing over the body to the relatives is unnecessarily delayed because of delays in deciding upon the tests to be carried out. This is a source of anguish to the relatives who have to receive the last remains of their near and dear ones.

11.73. The responsibility for the disposal of a dead body is no where defined in law, although it is mentioned that the surviving husband or wife and also the parents of a child dying before attaining majority is responsible for the disposal of the dead body. In the absence of any legal heir or near relative, the dead body of a patient could also be given to friends or known persons. In India, there are certain religious organisations to whom unclaimed dead bodies are given for performance of last rites. The unclaimed dead bodies are also sent to the Anatomy Department of the teaching hospitals for demonstration to students. The Group found that the teaching and research institutions have always found themselves handicapped on account of shortage of dead bodies. It recommends that unclaimed bodies in District Hospitals, provided adequate arrangements for their conveyance under proper conditions could be made, be sent to the teaching hospitals for teaching and research purposes. The Group also understands that the religious or charitable organisations have difficulties in recovering expenses incurred by them on disposal of dead bodies. These difficulties should be removed and a proper system of re-imbursement should be evolved.

11.74. The question whether the dead body of a patient be used for the benefit of a patient or for experimentation against the wishes of the claimant of the dead body, has been decided by several courts of law, the decision being that the right to the dead body is that of the heir, executor or administrator and the hospital authorities have no right to it, even in accordance with the wishes of the patient given in writing by him before his death. It has, however, been found that the heirs generally honour the wishes of the deceased.

11.75. Disposal of the property of the deceased patient is another responsibility of the hospital authorities. The Group found that enough care is not taken and in cases there has been pilferage. The Group recommends that when a patient is admitted to the hospital in an unconscious state or dies leaving some property on his person, a proper account in a specified form should be kept according to the standing orders in the hospital. Legally, such property should be made over to the personal representatives of the deceased person or his nominee that is his executor or administrator or heir, on the production of probate or letters of administration. In practice, however, it is suggested that it is not unreasonable to hand over the articles left behind by the deceased, except in cases of very valuable item or large sums of money to the near relatives. It may be desirable to take a letter of indemnity. In the case of a patient leaving property of substantial value, the proper course would be to inform the relatives about this so that they may, if there is no will, apply for letters of administration, or file an affidavit about the legal entitlement. When there are neither known relatives within the recognised degree of relationship nor a will, the property should be disposed of according to the law of the land, which in most cases goes to Government funds. The hospital authorities have to notify this to the concerned authority in the district.

11.76. Deaths in hospitals also sometimes lead to courts of enquiries by public bodies or prosecutions by the heirs, administrators, on grounds of alleged negligence, improper attention and professional failures. Here the hospital records are of immense value. The Group found inadequate attention being paid by hospital authorities in this regard with the result that the hospital, even where it is not to blame has to pocket the blame because of lacuna in record keeping. The Group recommends that utmost care should be taken in emergency cases in maintaining proper records and the doctor incharge of the patient should personally ensure that this is being done.

11.77. The location of a Mortuary is also an important matter. Ground floor is the best location for a Morgue. It should have a suitable exit leading to a loading area concealed from the view of patients and the public.

11.78. The physical facilities in and the design of a Morgue will depend upon the size of the hospital and the special interests of teaching and research. From the information collected from Delhi hospitals it has been found that on an average there is one death per hospital bed per year. Facilities for the custody of bodies and post-mortems will have to be provided on this basis. The following facilities should be provided in a district hospital or above:—

1. Morgue suite
2. Doctor's room
3. Waiting room for relatives and police
4. Dressing room for bodies
5. Stores rooms
6. Room for morgue attendant.

The sketch plans of mortuaries for tehsil, district and teaching hospitals are given at Appendix XXXIV-A, XXXIV-B and XXXIV-C.

11.79. Cooling arrangements in the Morgue is a necessity to keep the dead bodies in shape and good condition. The Group recommends that cold storage arrangements should be available in district and regional hospitals. The cold room chamber or cabinet should have a temperature of 4°C. The Group made enquiries from leading firms like Voltas and Blue Star and it is understood that they are in a position to provide the necessary facilities. In hospitals having cold chambers for morgue, there should be built-in arrangements for the use of ice in case of electricity failure or the compressor. The Group feels that no separate room is required for pathological and medico legal work but there should be a separate store for the custody of medico legal tissues, other material and records. The Group further recommends that there should be ample in-let for day-light for medico-legal work. For pathological work sufficient illumination should be available. The floor should be stain-proof and easily washable and drains with plenty of water supply should be provided. A weighing scale to weigh organs is also a necessity.

11.80. In regard to staffing the Group recommends the following staff for a District and teaching hospital morgue, in addition to the other staff—

1. Morgue attendant—One
2. Sweeper—One

In teaching hospitals the staff should work in a 8-hour shift. In district hospital round-the-clock coverage is possible by providing the staff with residential accommodation in the hospital premises.

11.81. The Group recommends that the following record should be maintained:

(a) Stock registers of equipment and supplies;

(b) Incoming and outgoing dead bodies register, giving the time and date of bodies admitted to morgue, time of admission and discharge and other identification data. Signatures of the relatives or any other person to whom the body is handed over should be obtained on the Register, and his/her relationship indicated;

(c) Medico-legal register for medico-legal post mortems; and

(d) A Register for consent in case of non-medico-legal cases.

11.82. The Group recommends that whenever required the services of photographic and X-ray units should be available to mortuary.

## CHAPTER XII

# SANITATION AND SECURITY ARRANGEMENTS, PUBLIC RELATIONS AND HEALTH EDUCATION

12.01. The word sanitation refers to adoption of hygienic measures for the preservation of health by keeping clean and free of infection all materials, which come in contact with man and are likely to be ingested, inhaled or injected and cause disease. It includes, among other measures the following:

(a) Environmental sanitation;

(b) Wholesome food and hygienic potable water;

(c) Efficient sterilisation of surgical instruments and dressings;

(d) Prevention of cross infection.

12.02. Environmental hygiene assumes added importance in hospitals. A clean, well-kept and cheerful hospital not only expedites the recovery of the patient, but can serve as a model for health education. The hospital must, therefore, be kept scrupulously neat and clean. The need for this will be clear from the fact that more than 50 per cent of morbidity data is reckonable to diseases, pertaining to gastro-intestinal tract alone, etiology of which is traceable to ingestion of material harbouring infection. Conventional and convenient methods of sanitation exist in hospitals in varying degree of efficiency, which goes to show that no standard pattern exists and explains the high incidence of diseases connected with bad sanitation and unhygienic practices. In larger hospitals there are arrangements for sanitation and hygiene, under the charge of a qualified sanitary Inspector. Very few hospitals, however, have dieticians to ensure preparation of food under hygienic conditions. The Group noted with some satisfaction that the necessity of providing sanitation arrangements is being realised and hopes that a full-fledged department will come up in future to take care of sanitation. The Group understands that the Indian Standards Institution has laid down standards for hospital furniture, equipment and sundaries, and recommends that these standards be adopted in all hospitals.

12.03. The Group noted that in several cases of new constructions the left-over bricks, mortar and other building material and junk etc. were not removed from the premises for long periods after the completion of construction. If this is done and all pits filled, mosquito-breeding would be prevented. The premises would also look cleaner.

12.04. The Group recognises that the design and architectural aspects of hospital buildings are important both for the well being of patients and for reasons of economy. It is important, therefore, that adequate attention is paid so that utility and beauty are combined and the institution managed with a minimum of staff.

12.05. The Group found that as for Government buildings in general, only 1 to 2 per cent of the capital cost of hospital buildings is earmarked annually for maintenance. This amount is, however, now proving to be entirely inadequate, especially because of the big rise in prices. The hospital needs much higher degree of hygiene and cleanliness because of the nature of its work, which necessitates more frequent whitewashing, painting and repairs. The present provision being inadequate, the Group recommends that 3 to 4 per cent of the capital cost should be provided for the maintenance and repairs of hospital buildings.

12.06. The Group came across a number of hospitals where the annual repairs had not been done for years, because funds had not been allocated for the purpose either on account of emergency or some other reasons. It is the considered view of the Group that such restriction is bad economy, particularly in the case of the maintenance and upkeep of hospital buildings.

12.07. Provision of water supply at all hours is a bare necessity for the hospital. A continuous and adequate flow of water in all sections of the hospital is necessary. We are of the opinion that the hospital should have adequate storage arrangements to maintain a daily supply of 50 gallons of water per bed.

12.08. Drinking water in the form of water-coolers should be provided in verandahs and out-patient departments at suitable locations for the use of patients and their attendants. Private donations can be solicited for providing water-coolers.

12.09. The Group found that the number of urinals and latrines in most of the hospitals was not only inadequate but they were kept in highly insanitary conditions. The Group recommends that there should be a provision of one latrine seat for every six beds. Surface latrines are a health hazard, as they create fly nuisance and emit foul smell and vitiate the atmosphere in the hospital. They also need a large number of scavangers. The Group recommends that wherever piped water-supply is available, all the surface latrines should be converted into water-borne latrines, attached to the sewerage system or a septic tank. At other places water-borne non-flushing latrines should be provided with a septic tank.

12.10. The Out-patient Department receives large numbers of visitors, including patients, their relatives and attendants but invariably, the Group found that the arrangements for urinals and latrines were either non-existent or inadequate. The Group cannot overemphasise the need for making such arrangements and maintaining sufficient numbers of sweepers to keep the waiting hall or places clean. The visitors are also often found to create insanitary conditions by spitting and coughing on the floor or in the corners and there is need to provide spitoons both in the out-patient and inpatient departments.

12.11. The cleanliness of the kitchen is equally important. To keep out flies, the kitchen should have flymesh doors. They should be white-washed frequently and at regular intervals. The garbage from the kitchen waste should be collected in closed bins and removed without long delays.

12.12. The bigger hospitals should have a House keeping Cell, for which we recommend the following staff pattern—

(i) 500 *beds or more*

| | |
|---|---|
| (a) House keeper ... ... ... | one |
| (b) Sanitary or Health Supervisors ... | one |
| (c) Havildars (supervisor) ... ... | two |
| (d) Sweeper and Scavangers ... | adequate numbers |
| (e) Gardners (Mali) ... ... | adequate numbers |

(ii) 100 *to* 500 *beds*

| | |
|---|---|
| (a) Sanitary or Health Supervisor ... | one |
| (b) Havildar (Supervisor) ... ... | one |
| (c) Sweepers, Scavangers and Mali ... | adequate numbers |

12.13. It would be the duty of the cell to remove garbage and maintain cleanliness in the hospital and its premises. It would also look after the disinfection of linen, blankets and matresses and spray insecticides to destroy bugs.

12.14. The Group has already dealt in Chapter on Ancillary Services, in regard to sterilisation of equipment and linen in hospitals.

12.15. Cross infection in hospitals, chiefly caused by staphy-locococi, has caused much concern in recent years. Control of cross infection should be done by application of aseptic methods as use of umbrella of antibiotics by itself is unreliable. The extent of the problem of cross infection cannot be appreciated without an adequate system of recording and investigation. It is, therefore, recommended that records of clinical evidence of infection should be maintained in a simple, comprehensive and readily available form. The cooks, food servers, attendants etc. who come in contact with food should be screened and their health records maintained. There should be spacing at least 8 feet between the beds. This distance could with advantage be increased to 12 feet in multi-bedded wards for the segregation of patients with septic lesions. Either single room or a separate ward should be provided for the isolation of patients and members of staff with septic lesions. Single rooms should be provided with the necessary facilities for isolation nursing. When isolation accommodation within the hospital becomes inadequate, surplus patients might be transferred to another hospital with isolation facilities, such as the infectious diseases hospital. Alternatively, patients with septic lesions might be segregated in multi-bedded 'septic' wards. Patients susceptible to infection or being treated with drugs which enhance their susceptibility, should likewise be segregated. A high standard of barrier nursing, while it may not prevent air-borne infection, will practically eliminate infection by direct and indirect contact.

*Security arrangements in Hospitals*

12.16. The Group found that pilferage of fittings and equipment is not of such a magnitude as would justify the employment of a full contingent of security guards. It is, therefore, recommended that all costly equipment, when not in use, should be kept under lock and key, and the responsibility for its custody fixed on an officer. Regular physical verification of stores in all the departments of the hospital would reduce pilferages.

12.17. The design of hospital buildings would go a long way in facilitating security arrangements. Architects sometimes go in too much for the beauty of elevation at the cost of security. Low compound walls grill-less windows, lavish use of glass are some examples. The Group suggests that the architects should pay adequate attention to consideration of security in the designing of hospitals.

### *Public relations in hospitals*

12.18. The popular complaints against the hospital administration are lack of courtesy and sympathy on the part of doctors and the staff. They have little understanding of patients and their attendants who are in an abnormal and tense state of mind and at times, tend to be unreasonable. In the Out-patient Department there are several and long queues, where patients are made to stand for long periods. They are also made to stay for hours before receiving diagnostic services including the X-ray. In a good number of cases the results of tests are either not correct or not correctly recorded. Sometimes pathological and X-ray tests have to be repeated as the original tests were found to be defective. There are delays, unpunctuality and irregularity in attending to patients. Even in case of serious illness, sometimes there is carelessness. Operative treatment are delayed or postponed for inadequate reasons. On behalf of hospital employees, on the other hand, there are complaints that patients and their attendants are often overbearing and rude. They make all kinds of demands not permissible under rules and interfere with the doctor's work. They little realise the pressure under which the doctor and the staff work. We are not prepared to dismiss all complaints as frivolous, nor are we prepared to accept them all. There is, of course, possibility of exaggeration.

12.19. Public relationship in hospitals is a matter of fostering goodwill, trust and understanding among the people, the hospital services and the hospital staff. People go to the hospital with high expectations, believing that every disease is fully and quickly curable, the doctors are full of knowledge and all facilities to achieve the desired results are available. They do not appreciate the limitations of hospitals. Good public relations cannot be achieved so much by institutional changes as by personal factors i.e. good and courteous behaviour on the part of the hospital workers and the receptiveness by patients and their attendants. The Group found that the public relations in private specially the missionary hospitals, were much superior to the Government-run hospitals. The obvious reason is the nature of approach on the part of hospital authorities. The Group is confident that, given the will, similar results can be achieved in public hospitals. The Group recommends that broad principles of hospital administration and rudiments of public relations should form part of the teaching programme of medical graduates.

12.20. Among places, where the public comes most in contact with doctors and the hospital staff and which need fostering of good public relations, are included in the Out-patient Department, the Casualty and the Emergency Ward and the Indoor Patient Department.

(a) We have already discussed in details the facilities to be provided in the Out-patient Department in Chapter VI. It may be recalled that we have proposed the establishment of an Information and Enquiry Desk, where social workers may be associated. We further recommend that a Public Relations Officer should, to begin with, be appointed in teaching hospitals. His duties would be to sit at the Information and Enquiry Desk, look into the complaints and difficulties, bring them to the notice of the concerned doctor or administrative officer and secure redress.

(b) Generally the patient in the Casualty and the Emergency Ward is in a state of agony and his attendants in a tense state of mind. A few words of sympathy to allay their agony and anxiety and prompt attention will go a long way in establishing good hospital-patient relationship. The Group would emphasise that the doctor on casualty and emergency duty should be particularly polite and sympathetic. He should spare no efforts to console the relatives and attendants of the patient.

(c) Indoor wards generally work under heavy pressure on the hospital beds, which causes strain on the relations between the patients and the hospital administration. There are also regulations, which the patients and his attendants must observe. The Group has no doubt that the patient hospital relationship would improve by an understanding by the patient of limitations under which the administration has to work. It recommends that a brochure containing the 'Do's' i.e. the course of conduct which the patient is expected to observe and 'Don'ts' i.e. acts which he is not expected to do, should be available for the benefit of the in-patients.

12.21. The ward sister, who acts as the caretaker of the patient, has an important role to play in building a healthy relationship. The Group was gratified to find that generally the behaviour and response of nurses and ward sisters in the public hospitals was both courteous and cordial. However the inadequacy in the numbers of such personnel was a great handicap. The Group recommends that the number of nurses, ward sisters and ward boys should be raised to the level of recognised standards and, as far as possible, no vacancy should be left unfilled.

12.22. Hospital Advisory Committees are reported to have been set up in some hospitals. Their duties and functions have been defined. Experience about their working has, however, not been uniformly happy. Many of these Committees have met casually and to do only formal business. The Group welcomes the ideas of setting up of Advisory Committees at the teaching and District Hospitals and trusts that the Committees would not remain content only with formal meetings but would take live interest in the affairs of the hospital and the staff, and suggest measures to add to the comforts of patients, build better relations and secure for the hospital support of the voluntary institutions, charitably disposed persons and social workers.

*Health Education*

12.23. The hospital forms an excellent nucleus for imparting health education. It is here that people with health problems and motivated from within come in large numbers to meet doctors, nurses, dieticians, medico-social workers and health technicians. Although the hospital as originally conceived was intended to be a curative institution, with the growth of the idea of integration between the preventive and curative services, the hospital of the future is destined to play a significant role in teaching the community in health measures.

12.24. Health education falls essentially under two heads: specific and general. The specific education aims to educate the patient into observance of certain practices related to his own ailment, which would make speedy recovery possible. It can be done through talks recorded experience of patients, film strips and slides. General education deals with the dissemination of information regarding broad-based health problems and creating awareness about them. Display charts and models, films/slides, tape records, demonstration, talks and printed material are the media best suited for the purpose.

12.25. Health education in hospitals is a team-work requiring involvement of workers at all levels, from the top administrator to the humblest class IV employee of the hospital and of all the departments. The doctor and the hospital staff have to consider health education as an integral part of their responsibility. The Group found that hardly any work by way of health education was being done in the two highest tiers of hospitals, the teaching and district. The Out-patient Department so well suited for the work was conspicuous for its absence. The medico-social worker, wherever available, was occupied mainly in explaining the hospital procedures and did not contribute much by way of health education.

12.26. Rather than single out a particular activity and designate it as health education programme, it is necessary to fully exploit all health education opportunities existing in the hospital. The health educator should be alert to new developments, identify situations suited to health education work, guide the staff in developing among patients desirable health attitudes and so to re-orientate their behaviour as would help to get well and to keep well. Whatever may be the contents of the health education programme, its ultimate goal is to help people attain not just freedom from immediate disease or infirmity but to attain what W.H.O. described as "a state of complete mental, physical and social well-being." The Out-patient and in-patient departments, specialised clinics and other suitable situations should all be utilised for the work. Long waiting hours in different departments, where patients get bored, can be turned to advantage if utilized in health education.

12.27. For teaching hospitals, it would be desirable to have a qualified Health Educator with medical or social science training. He should be assisted by a number of medico-social workers trained in health education. A projectionist to operate the audio-visual equipment and artist-cum-photographer for preparing education aids should be included in the set up. It may at present not be practical to have health educator in district hospitals, but these hospitals should be provided with medico-social workers.

12.28. The health educator at the teaching hospital shall be responsible for the training of the hospital staff, planning educational activities, procuring aids, collecting information, giving guidance and establishing good relations with the people. He should study the attitudes, beliefs and cultural patterns of the people attending the hospital, prepare programmes and integrate health education with the training of the staff. The medico-social workers at the District Hospital would be responsible for planning the programmes and with the help of the State Health Education Bureau and the District Health Unit, it should be possible for him to provide training in health education. At the tehsil/taluq hospital and the Primary Health Centre the medical officer-in-charge shall have to undertake responsibilities for health education. It should be possible to utilise the Block Extension Educator in planning education material for the Primary Health Centre.

12.29. The teaching hospital should have a set of audio-visual equipment consisting of a 16 m.m. projector, portable film screen, slide-cum-film strip projector, a flip chart stand and other accessories for the public address system. Printed material and educational kit with talking points for all categories of health staff and photographic equipment and art materials would also be needed. Films, film-strips and other material may be obtained from the State Health Education Bureau.

12.30. For district hospitals, the District Health Unit would provide audio-visual equipment and health education material, and for coordinating and guiding the health education activities at the district and tehsil/taluq hospitals the State Health Education Bureau shall bear the overall responsibility. The District Health Unit and the Block Extension Educator should take active interest in health education programme, training of personnel, providing health education material and giving general guidance. It is suggested that voluntary institutions, social and community welfare bodies may be associated with the health education programme and their representatives invited to work on the Health Education Committees, which, to begin with, may be set at the State level and in teaching hospitals. These Committees shall function as advisory bodies for planning organising, conducting and evaluating educational activities.

12.31. The objective of health education will be achieved by developing awareness among the people, interest in and desire for health measures and a conviction which would result in the adoption of attitudes and practices of lasting value. In this process the hospitals must see that the health education is undertaken effectively.

## CHAPTER XIII

# AUGMENTATION OF RESOURCES

13.01. The proposals made by the Group in Chapter IV regarding the bed-strength of the various sizes of hospitals would raise the total number of beds from 3,18,000 at present to 4,20,000 in 1971, raising the bed-population ratio from 0.61 to 0.75 per thousand. In other words to implement the above recommendation 1,02,000 additional beds shall have to be provided. On the basis that the recurring cost per bed would be Rs. 4,000 per annum and non-recurring cost Rs. 15,000, the cost of providing 1,02,000 additional beds by 1971 will be Rs. 40.8 crores recurring and Rs. 153.0 crores non-recurring. In the second phase it is proposed to raise the bed population ratio from 0.75 to one bed per thousand by 1976. The details of financial implications during the years 1971—76 are as under—

| Year | Population in lakhs | Target of beds per 1000 population. | No. of beds required | Addl. beds required | Non-recurring expenditure at Rs. 15,000 per bed (Rs. in crores) | Recurring expenditure at Rs. 4000 per bed per year (Rs. in cores) |
|---|---|---|---|---|---|---|
| 1971 .. | 5,596 | 0·76 | 419,700 | .. | .. | .. |
| 1972 .. | 5,737 | 0·80 | 459,000 | 39,300 | 59·0 | 15·7 |
| 1973 .. | 5,878 | 0·85 | 499,600 | 40,600 | 60·9 | 16·2 |
| 1974 .. | 6,020 | 0·90 | 541,800 | 42,200 | 63·3 | 16·9 |
| 1975 .. | 6,161 | 0·95 | 585,300 | 43,500 | 65·3 | 17·5 |
| 1976 .. | 6,302 | 1·00 | 630,200 | 44,900 | 67·3 | 18·0 |
| | | | | 2,10,500 | 315·8 | 84·2 |

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13.02. Thus the total cost during the years 1968—76 of providing 3,12,000 additional beds to increase the bed-population ratio from 0.61 to one per thousand by 1976 would come to Rs. 125.0 (Rs. 40.8+ Rs. 84.2) crores recurring and Rs. 468.8 (Rs. 153.0+Rs. 315.8) crores non-recurring.

13.03. As against this, the allocations for the medical care programme in the three Five Year Plans were as under—

| | |
|---|---|
| First Plan ... ... ... ... | Rs. 25 crores |
| Second Plan ... ... ... ... | Rs. 36 crores |
| Third Plan ... ... ... ... | Rs. 62 crores |

It is thus obvious, that it would be an uphill task to achieve by 1976 even the modest target of one bed per thousand of population, if medical care programmes are to be financed entirely out of public revenues as at present. Thus ways and means have to be found to give financial support to the much needed improvement and expansion of the hospital services. The basic approach of the Group in this connection is that the sector of population, which is in a position to pay for medical facilities should be made to pay for it. It will be relevant to point out here that a sample survey,* carried out amongst the middle class families by the Central Statistical Organisation 1958, has revealed that people in the urban areas spend 2 to 5 per cent of their income on medical care. Similarly, the studies of the National Sample Survey in 1960-61 revealed that 2 to 3 per cent of the total income is spent by the people on medical care in the rural areas. Though these figures do not relate to a recent period, they indicate the trend. If expenditure at this level is being incurred by the people on medical care, what is required is to channalise this amount systematically through recoveries to build up medical care facilities on a national scale. After careful consideration the Group suggests the following measures for the augmentation of financial resources required for the purpose:

(i) Levy of a charge of 10 paise per attendance in the out-patient departments of hospitals and dispensaries;

(ii) A minimum charge of 25 paise per day of hospital stay;

(iii) Payment of diet-charges by patients who have a monthly income of Rs. 200 or above;

(iv) Setting up of pay clinics in all major hospitals in towns with a population of 5 lakhs and more;

(v) Provision of paying beds in district and teaching hospitals, where these do not exist;

(vi) Extension of Central Government Health Scheme and Employees State Insurance Scheme;

(vii) Starting of Health Insurance Schemes in selected areas or among selected groups of population;

(viii) Contribution from the L.I.C.; and

(ix) Health Cess.

13.04. *Levy of charge of 10 paise per attendance*—The attendance of the out-patient departments of Government hospitals and dispensaries during 1966 has been estimated at 384 millions. The levy of 10 paise per attendance would bring a return of Rs. 3.84 crores annually. This levy can be introduced in hospitals and dispensaries by requiring the patients to affix stamps of the required amount on the O.P.D. admission slips. The practice has proved quite successful in T.B. Clinics. The Group feels that it would be economical and convenient if automatic machines to charge ten paise per attendance in O.P.D. are used in bigger hospitals.

13.05. *Levy of charge of 25 paise per day of hospital stay*—Assuming the bed-occupancy ratio at 90 per cent, the levy of 25 paise per day of hospital stay would bring a sum of nearly rupees two crores annually. (Only 80 per cent of the institutions are under State control.) It is suggested that the levy of 25 paise should not be enforced in infectious disease hospitals and isolation wards, where it is necessary in the larger interest of the community to keep the patient in the hospital.

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*Report on the Middle Class Family Living Survey, 1958.

13.06. In instituting the above measures, we feel that distinction has to be made between those who can afford to pay and who are unable to pay. The indigent population must be protected in their own interests and also in the interests of the community at large. As such, the Group feels that the indigent population, like beggars, unemployed persons etc., may not be required to pay for hospital attendance in out-patient as well as in in-patient departments.

13.07. The measures suggested above, besides being a source of additional revenue, will bring down unnecessary attendance both in indoor and outdoor departments, thus reducing the congestion and over-crowding in hospitals, which will ultimately lead to an improvement in the standard of medical care.

13.08. *Diet charges*—The Group recommends that the cost of diet should be recovered from all patients whose monthly income is Rs. 200 or more. It is difficult to give an estimate of the revenues from this source, but the Group has no doubt that besides yielding some revenues, this measure will improve the dietary service by making the hospital staff feel that since diet is being paid for, it should be of a good standard. The patients, who pay for diet only, should not be considered as 'paying patients'.

13.09 The Group has noticed that in working out the cost of diet only direct charges like the cost of food items, fuel, etc. are taken into account at present by most of the hospitals in the country. This is not correct. The Group, therefore, suggests that while calculating the cost of diet all items direct (like food items, fuel) and indirect (like expenditure on dietary staff engaged on cooking, supervisory staff, depreciation on appliances and utensils etc.) should be taken into consideration.

13.10. It has come to the notice of the Group that at present no arrangements exist for supply of food for the attendants of patients. Since attendants, particularly those from out-stations, have to face a great deal of difficulty in small towns, where good eating houses are generally not available, the Group, suggests that attendants of patients should be allowed to get food from the hospital kitchen on payment of special charges.

13.11. *Pay clinics and paying beds*—The economics of pay clinics and paying beds cannot be worked out because of a variety of factors involved. The experience of West Bengal Government in running after-noon pay clinics in Calcutta is quite encouraging as can be seen from Appendix XXXIX. Recoveries in pay clinics amount to 67 per cent of the expenditure. Pay clinics will also serve as an economical means of providing good medical care to that sector of the population, which is in a position to meet a part of the cost.

13.12. In regard to paying beds, the requisite information is not available. However the experience of G. B. Pant Hospital provides some indication of the likely trend. In G. B. Pant Hospital for 29 paying beds, the recovery for the year 1966-67, was Rs. 1,11,000. The figure of expenditure is not available. However, if expenditure is reckoned at the generally accepted norm of Rs. 4,000 per bed per year, it would work out to Rs. 1,16.000. The Group is inclined to the view that paying beds should be run on a 'no profit no loss basis'.

13.13. It is felt that it would be difficult to set apart some of the existing beds as paying beds as it would give rise to a feeling that the well-to-do are being helped at the cost of the poor. The Group, therefore, suggests that some new beds may be put up in district and teaching hospitals as paying ones.

13.14. For declaration of income the patient should always make a statement in writing. This practice, wherever introduced, particularly in the All India Institute of Medical Sciences, New Delhi, has augmented the revenues.

13.15. The Group suggests that while instituting the measures suggested above, it must be ensured that the revenues raised thereby do not go to public exchequer but are made available to the hospital concerned, either directly or through an equivalent increase in its budget.

13.16. *Public Charities*—Voluntary organisations and charitable bodies have, undoubtedly, played a notable role in the educational field by establishing and running schools, colleges and other teaching institutions. The Group sees no reason why the efforts of these bodies should not be mobilised in the cause of health facilities. In fact there are a number of institutions—teaching, curative and others—which have rendered creditable services to the sick, but their scope and activities need to be enlarged. Health Services, by their very nature, are eminently suited to enlist the support of voluntary and charitable bodies and persons. The Group would not like to lay down a blue print but would recommend that donations for the putting up of hospital buildings, setting up of beds in them and for running hospital should be encouraged, and, if necessary, as a concession to human vanity, the building or additions may be suitably identified by naming them after the donor or his relative.

13.17. *Extension of C.G.H.S and E.S.I. Scheme*—At present, two major health insurance schemes are operating in the country, one is Employees State Insurance Scheme and the other the Central Government Health Scheme. Both these schemes are for selected groups of population. The Employees State Insurance Scheme gives coverage to industrial workers, including members of their families throughout the country, while the Central Government Health Scheme provides medical facilities to the Central Government employees and members of their families at Delhi and Bombay. The Employees State Insurance Scheme provides both medical and cash benefits, while the Central Government Health Scheme provides only medical coverage. One way of augmenting the financial resources would be to extend the benefits of these schemes to uncovered population and areas, i.e. the Central Government Health Scheme should be extended to all towns, where there is a concentration of Central Government employees and similarly the Employees State Insurance Scheme should be extended to those industrial towns where it does not operate.

13.18. The group is happy to know that E.S.I. Act has recently been amended and the income limit for coverage has been raised from Rs. 400.00 to Rs. 500.00 per month. The Group feels that the stage has come when it should be further amended to provide coverage to all commercial houses and transport undertakings employing 20 or more employees.

13.19. *Health Insurance Scheme*—It is argued that owing to low per capita income, shortage of manpower and hospital beds, it is not possible to launch a scheme of health insurance on a country-wide scale. However, as a beginning in this direction, the scheme of health insurance may be tried on a pilot basis in selected areas, both among the urban and rural populations. State Governments may also initiate insurance schemes for their employees at the capital and pilot projects for selected groups of population, both in urban and rural areas. Organised groups in private sector like banks, universities etc. should also be encouraged either to join the insurance scheme of the State Government or to start their own schemes. The financial implications of such scheme both in urban and rural areas are indicated at appendices XL and XLI for urban areas the financial implications have been worked out mainly on the pattern of Central Government Health Scheme.

13.20. It has come to the notice of the Group that the West Bengal Government is giving medical allowance to its employees. A similar practice is also followed by some banks and other organisations. This gives rise to unhealthy practices. Some employees misappropriate the allowance for personal use and take resort to Government hospitals/dispensaries, when they or the members of their families fall ill. The Group strongly feels that the practice of giving medical allowance should be discontinued and the organisations, which are now giving medical allowance, should either start their own health insurance scheme or join one of the schemes already in force.

13.21. *Participation by L.I.C.*—The expectation of life of the people in India has gone up from 32 years in 1941 to 52 years in 1967. This is largely due to the efforts of the health departments in the States and at the Centre and of voluntary organisations engaged in this field. The Life Insurance Corporation has been benefited to a great extent by an increase in the expectation of life. Thus it stands to reason that the Life Insurance Corporation should also join hands with health agencies in their endeavours. It is felt that the proper course for the Life Insurance Corporation would be to enter the field of Health Insurance and start schemes in selected areas. The Group feels that the Life Insurance Corporation should be asked to set apart a prescribed proportion of its profits' to finance the Health Insurance Scheme.

13.22. *Health Cess*—Attention of the Group has been drawn to the Mysore Health Cess Act, 1922. A copy of the Act is at Appendix XLII for ready reference. The actual collection on this account during the six years has been as follows:

| | |
|---|---|
| 1961-62 | Rs. 11,90,247 |
| 1962-63 | Rs. 19,14,131 |
| 1963-64 | Rs. 67,28,558 |
| 1964-65 | Rs. 51,05,360 |
| 1965-66 | Rs. 51,89,616 |
| 1966-67 | Rs. 61,07,694 |

13.23. The Group recommends that the levy of health cess may be considered by the States as a source for raising revenues.

## CHAPTER XIV

## FAMILY PLANNING PROGRAMME IN HOSPITALS

14.01. Programmes of health and medical care are inextricably mixed with family planning. In a way family planning is a part of health and medical care. Improvement in medical services reduces the death rate, but if the birth rate in a country with low standards of living remains at the old level, the economic standards and even the standards of health services are likely to become stationary or may deteriorate. Reduction in death rates must be followed by control of births, if the welfare of the society is to be preserved and improved.

14.02. Hospitals provide a powerful media for the promotion of family planning programmes, as they are the meeting place of large numbers of out-door and in-door patients and their friends and relatives. A patient is more receptive to ideas, connected with health problems. If you tell a lady to go in for tubectomy at the time of fifth delivery, she is more receptive to the idea. Similarly, a woman suffering from kidney or heart trouble, if asked to take to family planning, will be more inclined to accept the advice. Thus it is felt that suggestions by doctors and para-medical staff of the hospital have the desired impact on people, who visit hospitals.

14.03. In this context it is relevant to reproduce some of the conclusions of the Family Planning Research Project carried out during 1962—65 at tre Lady Hardinge Medical College: "It was seen that 66 per cent of those visiting the hospitals were in the 'eligible group' and 84 per cent of those in the eligible group amongst the in-patients required conception control because of the health reasons, but on questioning it was found that only 10 per cent of the patients in the eligible group knew about the existence of the family planning in the hospital. Fifty-one per cent of the patients desired limitations of children but only 47 per cent of the patients knew one or more methods of family planning and only 4 per cent were regular users. This shows that a lot needs to be done in the hospital to educate and motivate those attending the hospitals".

14.04. Information regarding the number of hospitals having facilities for family planning is not available but the Group, during its tours of the States, gathered the impression that 70 to 80 per cent hospitals have some such facilities. In rural areas all the Primary Health Centres (4683 on 30th September, 1967) have Family Welfare Planning Centres attached to them. In addition Family Planning services are available at 5,371 sub-centres out of 19,927 sub-centres functioning. But these facilities have not produced the desired results, because the Family Welfare Planning Centres are poorly organised and suffer from several handicaps. The majority of doctors and para-medical staff are indifferent to the family planning work. Very few doctors and nurses have the zeal to propagate the idea. The Group is of the opinion that not only the general practitioner but even the specialist in paediatrics or obstetrics in the hospital should persuade patients to limit the size of their families or space births. The Group observed that the Family Welfare Planning Centre was generally situated in a corner of the hospital and it was only the family planning staff, which worked to promote this important national programme. The Group's observations find support in the findings (Appendix XLIII) of the Family Planning Research Project of the Lady Hardinge Medical College. It was also observed that the full staff as sanctioned for the Primary Health Centres and urban family planning centres was not in position. The Group also found lack of proper awareness among the people of family planning methods particularly in the rural areas, for want of adequate publicity. Some of the Family Welfare Planning Centres suffer from shortage of contraceptives and publicity material. Follow-up of I.U.C.D. and sterilisation cases is not satisfactory. Moreover no record of the dropped out cases is kept and therefore the number of actual users is misleading.

14.05. In order to remedy the situation and provide better facilities for the promotion of the family planning programmes, the Group makes the following recommendations—

(a) *Creation of Conducive Atmosphere*

(i) The Medical Superintendents, heads of the clinical departments and the nursing superintendents should be made aware, through seminars, meetings and literature, of the urgency of the population problem, modern methods of Family Planning as well as of the results of the latest scientific research in this field.

(ii) To share the responsibility jointly, a committee should be set up consisting of (1) the medical superintendent as the Chairman, (2) heads of the departments of Gynaecology and Obstetrics, Surgery and Paediatrics, and in a teaching institution also the head of the department of Preventive and Social Medicine, (3) District Family Planning Officers, (4) Medical Officer-in-charge of the Family Planning Centre of the hospital and (5) some other persons interested in family planning. The functions of the Committee should be (i) to plan the programme, (ii) to review the progress periodically, (iii) to keep close liaison and coordinate the activities with voluntary organisations and (iv) to examine complaints, take remedial measures and explain the position to patients. The Committee should meet quite frequently.

(b) *Family Planning Services*

All teaching, district and taluq hospitals should have full-fledged Family Welfare Planning Centres on the same pattern as urban centres. The following staffing pattern has been prescribed for Urban Family Planning Centres by the Government of India:—

| | | |
|---|---|---|
| Medical Officers ... | 2 | (one female full time and one male part time) |
| Extension Educators ... | 2 | (1 male & 1 female) |
| F.P. Field Workers ... | 2 | (1 male & 1 female) |
| Clerk-cum-store-keeper ... | 1 | |
| Attendant ... ... | 1 | |

The Government of India have sanctioned the following additional staff in Primary Health Centres for Family Planning work:

| | |
|---|---|
| Medical Officer | 1 |
| Lady Health Visitor | 1 |
| Extension Educator | 1 |
| Computor | 1 |
| Auxiliary Nurse Midwives | 6 |
| Family Planning Health Assistants | 4 |
| Store Keeper | 1 |

14.06. The Group feels that the staffing pattern is adequate but full complement of staff has not been appointed at most places. It is strongly recommended that the vacant posts should be filled without loss of time.

14.07. In order that the family planning activities progress smoothly and that they receive due importance among the hospital services, it is essential that the Family Welfare Planning Centre should work as a part of the Department of Gynaecology and Obstetrics. This arrangement will help the Centre to function in close co-operation with other departments.

14.08. The location of Family Welfare Planning Centre, facilities for testing semen, early detection of pregnancy and investigation and management of infertility and sterility cases should be at a single central place preferably near the maternity block of the hospital. Adequate arrangements that will ensure privacy to both men and women should be available. To attract mothers, the Family Welfare Planning should also run Well-baby Clinics.

14.09. Marriage counselling facilities should also, as far as possible, be available at the Family Welfare Planning Centres. The occasion when a woman is examined for fitness for loop insertion or for some other family planning device, should be utilised for detection of abnormalities/diseases and, wherever possible, proper advice given for treatment. This would, the Group trusts, go a long way in generating confidence in family planning programmes and establishing closer links between medical care and family planning.

14.10. All hospitals (teaching, district and tehsil) should have facilities for sterilisation. For providing these facilities in hospitals, financial assistance is freely given by the Government of India, and in suitable cases the aid may be sought for.

14.11. *Educational Programmes*

(a) Information about the location and the timings of the family welfare planning centre in the hospital should be prominently displayed at vantage points such as at the enquiry desk, in the waiting room of the out-patient departments, dispensaries, etc.

(b) Family Planning as a part of patient care must be initiated by the attending doctor. All doctors in in-patient as well as in out-patient departments must give advice on family planning to their patients and refer them to the Family Planning Centre of the hospital for further advice and service. The doctor should ask the patients on repeat visits, whether they have been to Family Welfare Planning Centre, Instructions in this regard should be recorded on the OPD/Discharge slip to facilitate follow-up of the cases. The responsibilities of the doctor in relation to family planning advice as a part of patient care, are given in detail in Appendix XLIV.

(c) The nurses have an important role to play in the education programme of Family Planning during the stay of the patient in the hospital. They can educate and motivate patients in favour of Family Planning. The expected role of a nurse in the family planning education programme during the patient's stay in the hospital is indicated in appendix XLV.

(d) Pamphlets on various aspects of Family Planning should be distributed to the literate patients and their relatives in both the in-door and out-door departments.

(e) Special small group talks on health can be organised in special clinics such as ante natal, well-baby, cardiac and diabetic clinics with a built-in emphasis on family planning.

(f) The extension educator with the permission of the administrators and in consultation with the heads of the other departments should exhibit the visual aids in in-door and out-door departments wherever possible.

14.12. *Follow-up.*

(a) The discharge slip for eligible patients should clearly indicate the type of family planning needed and the place to be visited by them.

(b) Verbal instructions to the patients and his/her relatives at the time of discharge should also include family planning advice.

(c) In case the patients desire to take some pamphlets and contraceptives, they may be allowed to do so.

14.13. *Interest by doctors*

It is recommended that a specific remark about the interest taken by doctors and para-medical staff in the family planning work be recorded in the annual character roll. This will be an added incentive for doctors in Government service. For outstanding work in family planning, the staff should be allowed double increments in pay.

14.14. *Training in Family Planning*

The Group has observed that doctors and nursing staff working in hospitals do not have enough knowledge regarding the scope of family planning services through hospital care. According to the Family Planning Research Project of Lady Hardinge Medical College 'about 50 per cent of the house surgeons and 66 per cent of nurses did not feel competent to talk about family planning and provide services'. Clearly there is an urgent need for the orientation of the hospital staff in family planning. The Department of Obstetrics and Gynaecology in collaboration with the department of Preventive and Social Medicine should organise orientation courses for doctors and nursing staff. Wherever available, the staff of Regional Family Planning Training Centre may also be involved in organising these courses.

14.15. The Study Group is of the opinion that, at present, Family Planning as a subject of study is not given adequate importance in the undergraduate curriculum. It recommends that the study of the subject should be intensified on a uniform pattern in the medical colleges with the objective of broadening the students' knowledge. Study of Family Planning can be built in the basic subjects of Anatomy and Physiology and Preventive and Social Medicine. It is also recommended that adequate importance should be given to the subject of Family Planning in the training programme of nurses and auxiliary nurse midwives.

14.16. *Integration of Family Planning with Health Services*

This aspect of the subject has been dealt with in detail in Chapter VIII on 'Integration of Health and Medical Services'.

## CHAPTER XV

## CENTRAL GOVERNMENT HEALTH SCHEME

15.01. Social security in India may be said to have begun with the enactment of the Workmen's Compensation Act of 1923 and the State Maternity Acts which came later. These enactments were designed to provide for a measure of security in cases of employment injury, and for assistance to women employees at the time of confinement. One of the most important developments in the field of social security in India may, however, be taken to be the passing of the Employees State Insurance Act in 1948. The introduction of the Contributory Health Service Scheme for the Central Government Servants in Delhi and New Delhi 1954 based on the principle of co-operative effort by the employee and the employer, to the mutual advantage of both, was step further in the movement of social security in India.

15.02. *The Beginning*—Prior to the introduction of the Scheme, Central Government servants and members of their families were entitled to free medical aid with many reservations under the Medical Attendance Rules. Under these rules a few medical officers working in hospitals and dispensaries in the city were designated as authorised medical attendants of government servants. They attended on government servants in addition to the normal hospital and dispensary duties. The government servant had thus either to take his turn alongwith others at the hospital or the dispensary or to wait until they could see the doctors outside the working hours.

15.03. Under the old system, Government servants had initially to incur the expenditure on their medical treatment under the advice of authorised medical attendants and got reimbursement of such expenses later on from Government to the extent admissible under the rules. This system of reimbursement was a great handicap, especially for low-paid government employees, who could ill-afford to incur the initial expenditure. Besides, it involved considerable clerical labour in Ministries and other Departments of the Government. It also resulted in delays in the settlement of claims by Government servants. Class IV Government servants could not get domiciliary service and treatment, even in the case of serious illness. Families of Government servants of all categories were also not entitled to services and treatment. Moreover, the system of allowing authorised Medical attendants to charge fee, led to a number of malpractices. It raised the amount of reimbursement claims without giving corresponding benefit to Government servants. The need for better arrangements for medical attendance of Central Government employees was, therefore, examined and it was decided that compulsory Contributory Health Service Scheme would best serve the purpose.

15.04. Thus the Central Government Health Scheme (C.G.H.S.) previously known as Contributory Health Sevice Scheme was started on an experimental basis with the two fold objectives—

(i) to provide better medical facilities for government servants and their families; and

(ii) to serve as a pilot project for National Health Insurance Scheme.

15.05. The Central Government Health Scheme aims to provide a fuller and more efficient and comprehensive medical service. It has abolished the distinction between class IV and other classes of government servants in the matter of free medical attendance and treatment. It extends the benefit of free medical service, not only to all Central Government servants but to their families as well. The term 'Family' for the purpose of the Scheme means the wife or the husband, as the case may be, children or step children and parents, mainly dependent upon and residing with the Government servant concerned.

15.06. The element of contribution was introduced for the first time in this enterprise. It was proposed, in order partly to meet the cost of extended scheme and partly to symbolise the idea of partnership in the social security measures among the beneficiaries, that Government servants should make monthly contribution towards it. The rates of contribution are as follows:

| Pay gradation (in rupees) | Monthly rate (in rupees) |
|---|---|
| 1. 2000 and above | 12·00 |
| 2. 1500 to 1999 | 9·00 |
| 3. 1000 to 1499 | 6·00 |
| 4. 750 to 999 | 5·00 |
| 5. 500 to 749 | 4·00 |
| 6. 250 to 499 | 2·50 |
| 7. 151 to 249 | 1·50 |
| 8. 76 to 150 | 0·75 |
| 9. Up to 75 | 0·50 |

15.07. *Facilities*—The standard of medical facilities provided consists of: (i) Out-door treatment; (ii) supply of necessary drugs, including chemotherapeutic and antibiotics and dressings; (iii) laboratory and X-ray investigation; (iv) domiciliary visits; (v) ambulance service (vi) in-patient treatment for all medical and surgical cases including operations; (vii) specialist care; (viii) antenatal care, confinement and post-natal care for woman; (ix) emergency treatment; (x) supply of optical and dental aids at reasonable scheduled rates by the Government appointed opticians and dentists; and (xi) advice on family planning, including supply of free contraceptive appliances.

15.08. *How the Scheme Functions*—Indentity cards are issued to Government servants giving the names of the entitled members of their family. The entire area of Delhi and New Delhi has been demarcated into zones with a dispensary in each. There are at present 52 static and 2 mobile dispensaries. The identity card holders living in these zones are attached to the dispensaries of the respective areas, from where they can get treatment in case of illness. About 25,000 patients are being attended to daily at the dispensaries, urgent and serious cases receiving immediate attention. Suitable accommodation with arrangements for seating has been provided in the dispensaries. Electric water coolers have also been installed for providing cold water to the patients during summer. In order that the beneficiaries may make the best use of the waiting period, some newspapers are provided in the waiting halls.

15.09. The strength of the staff employed in the dispensaries is adjusted according to their needs, depending upon the number of beneficiaries and the daily attendance. The strength of the medical officers in the dispensaries varies from two in some to five or even more in others according to requirements. An average dispensary with normal load of 2,500 families of about 12,000 beneficiaries has on its staff 4 medical officers including one lady doctor, four compounders, three dressers, two clerks, two female attendants, two peons, two sweepers and one chowkidar.

15.10. *Supply of Medicines*—The medicines prescribed either by the medical officer of the dispensary or specialists are issued from dispensaries, which stock most of the items, including special proprietary preparations. A medical store depot is run for ensuring a continuous flow of medicines to the dispensary, annual expenditure on which is approximately Rs. 80 lakhs. For medicines as are not stocked and not available at the time, but have been prescribed by any of the medical officer or specialists a special requisition is prepared and passed on to a chemist specifically appointed for the purpose, who delivers the supplies to the dispensary by the same afternoon. The latest and the best medicines are within the reach of beneficiaries, irrespective of cost if their use is advised by a specialist.

15.11. *Domiciliary Service*—In serious cases of illnesses in which the medical officer is satisfied that the patient requires treatment at home. domiciliary visits are made by medical officers without any liability on the part of the beneficiary. The concession of free domiciliary aid is open to the entitled members of the family on an equal footing with the Government servant. During 1966-67, on an average medical officers paid 287 domiciliary visits; i.e. 24 visits per month.

15.12. *Laboratory or X-ray Services*—Cases requiring laboratory or X-Ray investigation or consultation with specialists are referred to regional laboratories and to the Willingdon and Safdarjang Hospital to each of which 4 to 5 nearby dispensaries are attached.

15.13. *Specialists' Service*—Specialist staff consisting of surgical and medical consultants, obstetricians and gynaecologists, dentists, dermatologist orthopaedic surgeons and psychiatrist, specialists in children's diseases and diseases of the eye, ear, nose and throat are stationed at the Willingdon and Safdarjang Hospitals for the benefit of the members of the Scheme. The treatment prescribed by the specialists is carried out in the hospital, if necessary, or continued at the dispensary by the dispensary medical officer according to the specialist's instructions. On an average 1600 patients are seen by specialists every day. A new approach in specialist and laboratory services was introduced in 1965, the details of which are given later.

15.14. *Hospitalisation*—Cases requiring treatment as in-patients are admitted to the Safdarjang and the Willingdon hospitals. These hospitals have been equipped with modern plant and equipment and facilities exist for diagnosis and treatment of medical, surgical, orthopaedic, dental, opthalmic, obstetric and gynaecological and ear, nose and throat diseases under competent wholetime specialists. In addition to these two hospitals, arrangements have been made with the Lady Hardinge Medical College and Hospital, Victoria Zanana Hospital, Mrs. Girdhari Lal Maternity Hospital and Holy Family Hospital for hospitalisation of cases. especially of maternity. In addition facilities are also provided, through various Corporation and Municipal Maternity and Child Welfare Centres in the city, for the confinement of cases either at the centre or at the residence of the patient.

15.15. For Tuberculosis, the services of T.B. specialists at the T.B. Centres and facilities for admission of the patient to T.B. Hospitals and Sanatorium in Delhi as well as outside are in existence. Cases of Neuro surgery, cancer, mental diseases are sent to Vellore, Bombay and Ranchi.

15.16. Of the 18,099 cases hospitalised during 1966-67, 7569 were maternity cases, 374 cases of tuberculosis and 10,156 other cases.

15.17. *Administrative set up at the Headquarters*—The administrative set up of the Central Government Health Scheme consists of—

| | |
|---|---|
| (i) Deputy Director General ... ... ... | 1 |
| (ii) Assistant Director General (C.G.H.S.) ... ... | 5 |
| (iii) Deputy Director, Administration (C.G.H.S.) ... | 2 |
| (iv) Officer on Special Duty ... ... ... | 1 |
| (v) Family Planning Officer ... ... ... | 1 |
| (vi) Accounts Officer ... ... ... ... | 1 |
| (vii) Section Officers ... ... ... ... | 5 |

For administrative purposes, the office is divided into 5 sections for carrying out the day to day administration. A statement showing the distribution of staff and broad functions in different sections is given in Appendix XLVI. This office is a part of the office of Directorate General of Health Services and the Deputy Director General of the scheme (though the head of the department) has no independent status. He exercises powers delegated to him by the Director General of Health Services. Moreover, he is not a whole-time officer for the Scheme, being constantly drafted to other works. All matters requiring Government sanction are submitted to the Ministry of Health & Family Planning through the Director General of Health Services.

15.18. The Deputy Director General of the Scheme is responsible for the functioning of the entire Scheme with the assistance of the Assistant Director General, two Deputy Directors (Administration) and an officer on Special Duty both for field supervision and office administration. Part-time services of a statistician, who works in the Central Bureau of Health Intelligence under the Directorate General of Health Services, are also made available. He has to make a continuous study of trends in attendance, morbidity phenomenon, performance of staff of different categories and evaluation of various services. Apart from this, the statistical section under his charge also carries out special surveys from time to time.

15.19. *Progress of work*—The Scheme made a modest beginning on the 1st July, 1954, with 16 Dispensaries, 29 Assistant Surgeons, 11 Specialists and 53,000 Central Government Servants' families accounting for 2.3 lakhs beneficiaries. It soon became apparent that it had fulfilled a distinct need of Central Government employees and the increasing demands on the Scheme have resulted in its tremendous growth during the last 13 years. The service now caters to 1.45 lakhs Central Government Servant's families accounting for 6.18 lakhs beneficiaries through 55 static and 3 mobile dispensaries and has a staff of 335 Assistant Surgeons and 54 Specialists. On an average 25,000 patients are attended to every day in dispensaries; a total of 1600 patients seen by specialists every day and about 18,000 cases are hospitalised every year. The table at appendix XLVII gives at a glance the development of the Scheme since its beginning.

15.20. The Scheme was put on permanent footing in 1957, when measures for its consolidation and expansion were taken in hand. One of the important features of this phase of the programme has been the construction of permanent buildings in place of improvised or hired accommodation used until then for housing the dispensaries. At present, nine dispensaries are functioning in the buildings constructed for them and it is proposed to construct buildings for 18 more dispensaries, C.G.H.S. hospital and C.G.H.S. Medical Store Depot's office.

15.21. *Expansion of the Scheme*—On account of pressure from a number of semi-government institutions, statutory bodies and autonomous organisations for inclusion, the Scheme was extended to 9 such organisations in 1955. The number of such organisations has now increased to 78 covering 12,311 families which account for 51,060 beneficiaries.

15.22. In 1959, the Scheme was extended to the Members of Parliament also.

15.23. In November, 1963, the Scheme was extended to Central Government employees and members of their families living in Bombay. There it covers 21,320 families accounting for 69,710 beneficiaries and runs 8 static and 3 (three) mobile dispensaries.

15.24. The year 1964 was an important land-mark, as the C.G.H. Scheme was for the first time utilised to provide medical coverage to the general public and members of their families residing in the areas of nine selected dispensaries. This was the first time that members of general public were brought within the ambit of a welfare scheme initially started for Central Government servants. The response of the public to this measure has, however, been rather poor and only 655 contributors joined the Scheme during 1966-67. Perhaps the benefits accruing from the Scheme are not fully understood.

15.25. The benefits of the Scheme were extended to Central Government Pensioners residing in Delhi and New Delhi from 1st January, 1965. The Scheme is a boon to the pensioners in their old age, and so far 1790 pensioners, accounting for 5804 beneficiaries, have joined the Scheme.

15.26. *Expenditure and Contribution*—The financial aspect of any health insurance scheme is important, and more so in case of C.G.H.S., which was started as a pilot project to National Health Insurance Scheme. The following table gives figures of expenditure and contribution from the year 1954-55 to 1966-67:—

| Year | | | *Expenditure (Rs. in lakhs) | Contribution (Rs. in lakhs) | Per centage of col. (3) | Expenditure per family |
|---|---|---|---|---|---|---|
| 1 | | | 2 | 3 | 4 | 5 |
| 1954-55 | .. | .. | 15·24 | 7·51 | 49·28 | .. |
| 1955-56 | .. | .. | 24·14 | 16·56 | 68·60 | 34·49 |
| 1956-57 | .. | .. | 34·54 | 20·90 | 60·51 | 42·57 |
| 1957-58 | .. | .. | 38·39 | 23·46 | 61·11 | 43·64 |
| 1958-59 | .. | .. | 50·21 | 25·93 | 54·64 | 52·84 |
| 1959-60 | .. | .. | 63·03 | 29·35 | 46·57 | 62·2 |
| 1960-61 | .. | .. | 64·90 | 29·26 | 45·08 | 61·39 |
| 1961-62 | .. | .. | 88·03 | 40·00 | 45·44 | 76·57 |
| 1962-63 | .. | .. | 98·93 | 50·22 | 50·76 | 80·33 |
| 1963-64 | .. | .. | 123·35 | 54·26 | 43·99 | 90·75 |
| 1964-65 | .. | .. | 133·41 | 72·89 | 54·64 | 97·57 |
| 1965-66 | .. | .. | 146·58 | 70·69 | 48·23 | 106·72 |
| 1966-67 | .. | .. | 159·39 | 81·98 | 51·43 | 109·68 |

*Including expenditure on assumed rents of Government buildings, hospitalisation in Government hospitals, headquarters staff and printing & stationery.

15.27. It would be observed that the expenditure per family has been rising constantly. The rise has been due, among other reasons, to the opening of more dispensaries, improvements in the quality of services, employment of more doctors and ancillary staff, increase in pay scales and allowances and higher cost of medicines.

15.28. The break-up of the expenditure per family is as follows:

| Item of Expenditure | Expenditure (Rs. in lakhs) | Percentage of expenditure |
|---|---|---|
| Administrative .. .. .. .. .. | 3·28 | 2·5 |
| Dispensary and Specialist services .. .. .. | | |
| (a) Staff .. .. .. .. .. | 44·77 | 34·6 |
| (b) Medicines .. .. .. .. | 57·39 | 44·4 |
| and (c) Others .. .. .. .. | 3·63 | 2·8 |
| Hospitalisation .. .. .. .. | 18·44 | 14·3 |
| Rent of Government buildings .. .. .. .. | 1·08 | 0·8 |
| Printing & Stationery .. .. .. .. .. | 0·69 | 0·6 |

15.29. *Contribution*—We give here the rates of contribution and method of contribution by beneficiaries of different classes. The Central Government employees, as will be seen in table on page 207, contribute monthly sums ranging from Rs. 12 in case of employees drawing a salary of Rs. 2,000 or more per month to 50 paise in case of employees drawing up to Rs. 75 per month. These sums are deducted from their salaries every month and credited to the treasury under a separte head.

15.30. Contribution by semi-government institutions, statutory bodies and autonomous organisations are charged on the basis of actual expenditure during the year. They have to pay in advance, at the current rate, and the sum finally payable is adjusted at the end of the year.

15.31. Central Government Pensioners also contribute on the basis of pension drawn by them. They have to pay through postal orders to the office of the Central Government Health Scheme.

15.32. The members of the public have similarly to pay contributions in the office of the Central Government Health Scheme through postal order at rates prescribed for semi-government Organisations.

15.33. *From Medical Care to Health Care*—Morbidity statistics available from the dispensaries under the Scheme have brought out the fact that a large proportion of illnesses which brings patients to the dispensaries is preventible. Many illnesses arise from faulty hygiene and poor environmental sanitation, for the elimination of which community health work is necessary. Moreover, there are cases in which a disability and suffering arise from the fact that deviations from the normal functioning had not been detected before permanent damage was done. Towards the end of 1957, therefore, the concept of the working of the dispensaries was sought to be reorientated to the current out-look on which preservation and promotion, instead of merely treating the sick. In pursuance of this objective, the following measures were initiated:

(i) In August, 1959, a Health Clinic was started at the Central Secretariat, C.G.H.S. Dispensary, where all Central Government servants, irrespective of their status, can get routine medical check up done. The response from Government servants to this facility, the first of its kind, has been very encouraging.

(ii) With a view to detecting any infection of tuberculosis among Government servants, a mass X-ray campaign was initiated towards the end of 1959 and completed in 1961. A proposal to repeat this programme is under consideration.

(iii) Well-Baby Clinics, where complete check up of children is done along with preventive inoculation/vaccination, were started in 1960 in association with the C.G.H.S. dispensaries. The number of such clincis is now 32.

(iv) The Yoga exercise Classes were started at 10 dispensaries in association with Bharat Sewak Samaj in 1962. These classes continued to function satisfactorily till 1966, when attendance became thinner and the centres had to be closed down and

(v) Active cooperation and participation of the Community so necessary for the fulfilment of objectives stated above, is being sought by arousing interest in health among the local communities. Health Education Committees are formed in areas covered by certain dispensaries, so that they be looked upon as Community Welfare Centres and not merely as centres for the treatment of the sick.

15.34. *New Orientation*—The working of the Central Government Health Scheme during the past 12 years has brought to light certain serious deficiencies and difficulties. These are inadequacy of specialists services and relative shortage of facilities for simple diagnostic laboratory tests in dispensaries. Moreover the Scheme does not lay sufficient emphasis on immunization of children. During 1965, the pattern of services was modified to remedy this situation. The following paragraphs give some details of new re-orientation.

15.35. *Paediatric services*—It was estimated that roughly 40 per cent of the attendance in dispensaries consisted of children under 14 years of age, half of whom were under 5-6 years of age. The younger age group (0 to 6 years) being particularly vulnerable, it was decided that they should receive particular attention, and 15 paediatrics centres were established in dispensaries. They are manned, as far as possible, by medical officers possessing post-graduate qualifications in paediatrics, so that the children belonging to this age group receive primary consultation from a Specialist.

15.36. Simultaneously, efforts were made to launch an extensive drive for preventive inoculation in various areas of the city. The effort met, as was expected, with serious difficulties and valuable lessons were learnt in the task of organising mass immunisation. One of them is that it is important to have a complementary organisation in the community to make these drives a success. Besides these drives, immunisation facilities are available in all dispensaries. However, by and large the programme proved a success.

15.37. *Decentralisation of Specialist Services*—Formerly specialist services were largely concentrated at the Safdarjang and Willingdon Hospitals. Apart from creating conditions of over-crowding and long waiting at hospitals, the patients were put to considerable inconvenience and expense on account of repeated journeys to hospitals. There was excessive time lag between the reference of the case by the Medical Officer of the Dispensary and consultation with specialists. To remove these drawbacks, it was decided to decentralise the specialist services by arranging specialists' visit to dispensaries and thereby providing 'on the spot' services. It was decided to start Centres, which would provide specialist's consultation in medicine, surgery, eye and ENT, dermatology and gynaecology for two or three adjoining dispensaries. Eight such Centres are functioning at present.

15.38. In view of the large numbers of medical and skin cases, the services of medical and skin specialists have been decentralised on an extensive scale. Under this arrangement patients are seen practically at every dispensary by the medical specialists twice a week and by the skin specialist once or so a week. Peripheral Centres regularly visited by medical specialists number 33 and those by the skin specialists 13.

15.39. The decentralisation of specialist services has resulted in the reduction of the waiting period from 21 days to 1—3 days. The quality of consultation services has improved and continuity of treatment by the same specialist assured. The inconvenience to the patient caused by repeated long journeys to hospitals is now much less.

15.40. *Decentralisation of laboratory services*—To provide facilities for laboratory examination, the number of regional clinical laboratories has been raised from 4 in 1965 to 16 in 1966. There is definite evidence of the increasing use of these facilities, which is bound to improve the quality of diagnosis and treatment at the primary level.

15.41. *Family Planning*—It was fully realised early that the medical coverage, to yield the best results, must take into account the need for family limitation. The family planning was, therefore, initiated as an integral part of the activities of the dispensaries. Family Welfare Planning Centres, under whole-time lady doctors, were established in six dispensaries in 1955, these have now increased to 14, excluding 23 sub-centres in the neighbouring dispensaries. Clinics in these sub-centres remain open once/twice a week. The Family Welfare Planning Centres are also open to the public. Family planning services are also provided through 79 spot-clinics, in areas situated at some distance from the main centres. Thirty two centres have been established in larger offices and industrial establishments, which give advice and guidance to the married couple, and supply contraceptives free of charges.

15.42. The I.U.C.D. programme was started under the Central Government Health Scheme in May, 1965. The following data will give some idea of the work done at the Family Welfare Planning Centres:

| | 1966-67 |
|---|---|
| (i) Number of persons given advice ... ... | 13,707 |
| (ii) Clinic attendance ... ... ... | 83,890 |
| (iii) Number of persons contacted at home ... | 79,791 |
| (iv) Cases referred for sterilisation ... ... | 503 |
| (v) Value of contraceptives ... ... ... | Rs. 1,29,821 |
| (vi) Number of IUCD insertions ... ... | 1,446 |

15.43. *Progress of work at Bombay*—Arrangements have been made with the State Government hospitals and some private hospitals for providing facilities for hospitalisation, specialist consultations and investigations.

15.44. During the year 1966-67 a sum of Rs. 15.73 lakhs was spent on medical care of the beneficiaries at Bombay. The cost per family and per beneficiary worked out to Rs. 75.34 and Rs. 23.15 respectively. The anticipated expenditure for 1967-68 is Rs. 19.20. lakhs.

15.45. *Studies and Surveys*—Some features of the Scheme as brought out by the analysis of the statistical data and special studies and surveys undertaken from time to time, are worth mentioning.

15.46. A dispensary, with four or five medical officers, of whom at least one is a woman, normally caters to about 2,500 families consisting of about 12,000 persons. The sickness rate varying between 3 and 5 per cent, the daily work-load on a doctor ranges between 100 and 150 patients during the two working sessions totalling six hours. The incidence of sickness is lowest from the month of December, to February, the peak being reached in the months of August and September. Attempts to reorganise and expand the Scheme in order to bring down the work-load on the doctor to 75 patients a day have not materialised. The lowest figure in work-load was 118 in 1960—63, against 146 in 1955. The present figure is 125 patients per day for a doctor. The reason for the failure appears to be that the improvement in the quality of services has led to a disproportionate increase in attendance. An analysis of the morbidity data shows that cases of minor ailments, which generally account for about 70 per cent of the total attendance, register a sharp increase with the increase in the number of dispensaries. This increase is not transient but the stabilisation invariably takes place at a higher level. This is borne out by the experience that with the opening of two dispensaries in place of one, the total attendance generally doubles.

15.47. In order to assess the extent of utilisation of health services under the Central Government Health Scheme by various classes of beneficiaries, a sample study was conducted in dispensaries in 1960 and repeated in 1961 and 1966. The results of these studies bring out the fact that the upper strata of Government employees use the services much more freely than the lower income groups.

15.48. Complaints of inordinate delays and long period of waiting in C.G.H.S. dispensaries are made from time to time. In order to ascertain the period of waiting in C.G.H.S. dispensaries, a sample survey was conducted in February 1960 and repeated in October 1960, May 1961 and May 1964 and 1966. The results of these surveys indicate that the average period of waiting is about 30 minutes in May (normal season) and about 40 minutes in October (heavy season). It would be interesting to know that while 67 per cent of the patients were disposed of within 30 minutes of their arrival in the dispensary, only 4 per cent had to wait over 60 minutes. The average time given to a patient by the doctor, though capable of improvement, is not as bad as is generally made out. It was about 3 minutes in the sample studies. The longest period of stay is in the queue at the entrance to the doctor's clinic.

15.49. A poll was conducted in September 1960 among the Central Government servants in Delhi and New Delhi to ascertain their views regarding the working of the Central Government Health Scheme and to invite their suggestions for its improvement. It was done on the basis of a sample comprising 10 per cent of the beneficiaries belonging to the category of Central Government servants, members of Rajya and Lok Sabha and judges of the Supreme Court. It has brought out the fact that 49 per cent of the respondents appreciated the scheme. Of these 5.4 per cent thought that the services were excellent, 12.1 per cent, very good, 13.4 per cent good and 18.4 per cent satisfactory. Only 17 per cent expressed dissatisfaction with the working of the scheme; the remaining 34 per cent did not express any opinion. One of the suggestions made by the respondents was that the Scheme be extended to the non-entitled dependent members of Government servants on additional payment.

15.50. *Morbidity among the beneficiaries of the C.G.H.S.*—A sample survey of morbidity condition among the beneficiaries of the Scheme was undertaken during 1961, with financial assistance from the Indian Council of Medical Research. The objective of the survey was to obtain a clear picture of the morbidity pattern, and its relationship to socio-economic conditions. The analysis of data and the writing of the report were completed in 1963. This may be said to be the first research of its kind in India, done by the CGHS Organisation.

15.51. An assessment Committee was set up in 1960-61 to make a detailed study of the working of the scheme. The Committee's principal recommendations included provision of polyclinics; construction of permanent buildings for dispensaries and medical stores; provision for a separate hospital for CGHS; establishment of a Central Workshop, initiation of Yogic classes and provision of Ayurvedic and Homoepathic treatment. The Committee also made recommendations regarding staff pattern, diagnostic facilities, emergency services, supply of sterilised dressings and immunisation programme. It was of the opinion that Regional Advisory Committee be formed and the scheme renamed. Most of these recommendations have already been implemented.

15.52. *Observations and Recommendations*—The Group found that only nine out of the 55 Central Government Health Scheme dispensaries were functioning in buildings constructed for them. This to some extent explains the conditions of overcrowding and congestion in the majority of dispensaries. If dispensary bulidings were properly designed, patient could wait for their turn in comfort to see the doctor, procure medicines, have tests done, receive injections and dressings. Specially constructed buildings are in the long run more economical than rented buildings. They add to efficiency in working. The Group, therefore, recommends that high priority should be given to the construction programme of dispensaries.

15.53. The Group believes that some procedural changes could reduce overcrowding and congestion. At present a patient in the CGHS dispensary has to stand in four queues—one to take the token number, second at the entrance of the doctor's clinic, third to get his prescription registered and fourth at the dispensing counter. If the patient has to take two types of medicines, general and special, he has to stand in one additional queue. The multiplicity of queues involves waste of time and causes annoyance and irritation to ailing persons. The Group feels that the time for delivery of medicines would be reduced if the pharmacist's counter is enlarged to accommodate both the pharmacists, one dispensing general and the other special medicines. This will cut down one queue. Similarly if the token numbers (showing the turn of the patient in the queue) were initially delivered at the dispensary entrance by a peon, one more queue will be eliminated.

15.54. The following table gives the percentage of patients arriving and disposed of at dispensaries during different period of working:

| Interval | Percentage of patients who arrived in the dispensaries | Percentage of patients who were disposed of |
|---|---|---|
| 1 | 2 | 3 |
| **Morning Session** | | |
| 7·00 to 7·30 A.M. | 23·2 | 10·5 |
| 7·30 A.M. to 8·00 A.M. | 14·9 | 14·2 |
| 8·00 A.M. to 8·30 A.M. | 14·9 | 14·7 |
| 8·30 A.M. to 9·00 A.M. | 14·8 | 14·6 |
| 9·00 A.M. to 9·30 A.M. | 13·6 | 15·0 |
| 9·30 A.M. to 10·00 A.M. | 13·5 | 13·9 |
| 10·00 A.M. to 10·30 A.M. | 5·0 | 13·5 |

It brings out the uneveness in the flow of patients, which is responsible for creating conditions of overcrowding in dispensaries. The Group feels that the solution to this problem does not lie only in increasing the number of doctors as they would not be fully occupied during the lean hours. The Group, therefore, recommends that separate timings for old and new cases should be fixed and these timings be very strictly enforced excepting for emergent cases.

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15.55. It has been observed that at time dispensaries run short of certain items of medicine, the main reason being the time taken by DGHS in procuring medicines. The Group recommends that stocks at the Central Store of the CGHS Organisation should never at any time fall below six months requirements. The Group also recommends that a central pharmacy be established in the medical store for the manufacture of certain drugs.

15.56. Some cases were brought to the notice of the Group in which persons in position of authority have used their influence on the CGHS doctors to supply excessive quantities of drugs and medicines and medicines outside the CGHS formulary, although the formulary is sufficiently exhaustive. The Group expects that this practice would be voluntarily discontinued. It is hardly necessary to stress that at any rate the doctor is the best judge of the medicine to be prescribed and he should not allow himself to be influenced.

15.57. We understand that under the National Health Scheme of the U.K., no specialist sees a patient unless he or she is referred to him by the General Practitioner, irrespective of his post or position. In the Central Government Health Scheme on the other hand all Government officers drawing a salary of Rs. 1200 or more are entitled to have direct access to the specialist. This limit formely was Rs. 800/- but has now been raised. The Group understands that this distinction is based on the ground that according to the Civil Services Rules, formerly in force, certain officers had the right of direct consultation by an officer of the rank of Civil Surgeon. In the opinion of the Group this distinction is not justified on medical grounds and it would like this distinction to be removed.

15.58. An analysis of the expenditure on drugs per attendance shows that there is a wide variation in various dispensaries. The minimum expenditure of Rs. 1.06 per attendance for an average of 3 days' medicines was incurred at Kasturbanagar dispensary during 1966 and the maximum of Rs. 2.57 per attendance at the Constitution House dispensary. The Group feels that this big difference cannot be justified by any medical standards, and would recommend that a Committee of experts should be set up to go into the cost incurred by various dispensaries for removing the disparity.

15.59. The Group finds that the same formulation is marketed under different proprietary names, i.e. Syrup Codylex/Coscopin/ Syrup Cofcurs/Soventa/Expectorant, which in fact have the same active principles. The use of the proprietory names leads to numerous malpractices and higher costs of drugs. We, therefore, recommend that the use of the proprietory names should be progressively eliminated and the drugs should bear generic names. This recommendation finds support from the proposals of Medical Benefit Council of E.S.I. Corporation recently made.

15.60. The Group was given to understand that there is a considerable impression in the C.G.H.S. dispensaries, which is to some extent responsible for higher expenditure. They recommend that separate identity cards for every beneficiary of the Central Government Health Scheme containing his photograph should be issued. This step of course means an initial expenditure, but it will prove economical in the long run.

15.61. Another factor which is responsible for higher expenditure on drugs in the C.G.H.S. dispensaries is the pilferage of medicines. The Group recommends stricter internal checks should be enforced to eliminate pilferage.

15.62. In order to improve specialist, laboratory and diagnostic services, the Group recommends that poly-clinics for a group of five dispensaries be set-up. This suggestion finds support from the report of Central Government Health Service Assessment Committee (1961). The Group is of the opinion that the staffing pattern recommended by the Assessment Committee may be followed for the proposed poly-clinics.

15.63. The Group understands that there is a proposal to start a hospital exclusively for the beneficiaries of the Central Government Health Scheme. It is in agreement with the proposal and recommends that the hospital should be set up soon.

15.64. Since CGHS dispensaries are providing comprehensive health care, viz., curative, preventive and family planning, the Group recommends that the CGHS dispensaries should be redesignated as "Health Centres for Central Government Employees".

15.65. As mentioned earlier the annual expenditure per family under CGHS comes to Rs. 130/-, against an average annual contribution of Rs. 19.00 per family. In other words Government subsidises the Scheme to the extent of Rs. 111.00 per family annually. While recognising that the Central Government renders medical services to the employees in their capacity as employer and that the Scheme is a substitute for medical facilities available to Government employees previously under the Central Services Medical Attendance Rules, the Group is nevertheless convinced that the rate of subsidy is too high. The cost of health services, especially expenditure on salaries and drugs, since the present rates of contribution were fixed, have increased considerably. Costs of other consumable goods have also gone up. But these rises in costs have, however, to some extent, been offset by increases in the contribution of the beneficiaries on account of rises in their total emoluments. The Group feels however, that there is no justification in the rates of the contribution of C.G.H.S. remaining stationery. It, therefore, recommends that contributions made by the beneficiaries to the C.G.H.S. should be raised in the same proportion as the rise in total emoluments to the beneficiaries since the rates of contribution were last fixed.

15.66. The Group understands that the scheme was started as a pilot venture. After careful thought the Group has come to the conclusion that the Scheme should not only be continued as a permanent measure but be extended to other sections of the population such as employees belonging to the University of Delhi and Delhi Administration. In Bombay the C.G.H.S. should be extended to cover all the Central Government employees. In the Chapter on "Augmentation of Resources" the Group has already recommended extension of the Scheme to other cities where there is concentration of the Central Government employees.

## CHAPTER XVI

## DIFFICULT AREAS

16.01. The characteristic features of the areas dealt with in this Chapter are their sparse population, vast expanses of territory, difficulties of communications and social and economic backwardness. Because of poor communications long distances have to be covered on foot or in the case of the lucky few on mules and ponies, before reaching a dispensary or hospital. These areas include the hilly portions of Jammu and Kashmir, Himachal Pradesh, Kamaun Division of Uttar Pradesh, part of Jalpaiguri in North Bengal, the Hill Districts of Assam, the Union territories of Tripura and Manipur and the State of Nagaland. In the Satpura hills they include Amarkantak and Panchmari regions. The entire contiguous area, sprawling in the three States of Madhya Pradesh, Bihar and Orissa and consisting of the Bastar and Sarguja Districts (M.P.), Jharkhand (Bihar) and Koraput (Orissa) is also a difficult area. Parts of Nilgiri hills in the Western Ghats also partake of these characteristics. There may be other areas with similar features but the Group has no intention to prepare an exhaustive list.

16.02. These areas according to the 1961 Census accounted for five per cent of the total population of the country and a population density of 146 people per square mile compared to 373 for India as a whole. Mostly the inhabitants are the tribal people. With a few exceptions there are no towns and no industries there and the main stay of the people in these areas for livelihood is agriculture. The extent of culturable land being limited, holdings in these areas are tiny and scattered, productivity is low and the standards of living and dietary poor.

16.03. The difficult areas, spread all over the country, are lacking in continuity and homogenity. Within them, there exists vast disparities of conditions. The coverage of Community Development Blocks ranges from 4 to 239, the number of villages in a block from 14 to 339 and the villages differ widely in size and composition. In many cases just one family or a group of families live at the hill top during the summer and come down into the valley during the winter. There are also nomadic tribes with no fixed abode, such as Gujars and Gaddi, living there. The Group found it difficult to work out any common standards for such hetrogenous conditions or to deal with individual areas in detail within the compass of the report, Their recommendations are, therefore, made in general terms, which will have to be carefully studied and adjusted to the conditions of the area.

16.04. The diseases in these areas are born of nutrition deficiency, especially of low protein content in diet. Non-availability of clean drinking water is another serious handicap and people suffer from water-borne diseases. The Group cannot over-emphasise the importance of clean and drinkable water supply if the health problems of these areas are to be solved. The main diseases which came to the notice of the Group in these areas were helmenthid infection, venereal diseases, goitre, malaria, leprosy, tuberculosis and dental care. The standards of environmental health and personal hygiene are low and need to be raised. Infrequent bathing probably owing to severe cold, gives rise to skin diseases. The Group, therefore, recommends that the staff at the Primary Health Centre responsible for environmental sanitation and health education should, to begin with, start visiting every village at least once in a fortnight, gradually raise the frequency of visits until it reaches once a week. These visits should not be of a casual character, the aim being to make friends and win the confidence of the people visited. The Group expects that the health staff would spend at least two to three hours in a village and cover two villages in a day.

16.05. The Group came across cases where it took a patient as much as two days to reach the nearest dispensary or hospital and twenty-one days the district hospital. After considerable discussion, the Group reached the conclusion that in view of the special features of these areas, specially the lack of communications, the District Hospital as the referral unit would not be able to render effective clinical services. The Group, therefore, recommends that referral functions entrusted to District Hospitals generally, should, in the case of these areas, be made the responsibility of the Sub-Divisional hospital (tehsil, taluq or another suitable administrative sub-division). These hospitals may have more than 50 beds according to needs. They should have surgical, medical and gynaecological and obstetrics specialities and other specialities provided for district hospitals, such as opthalmology, E.N.T., venereal diseases and dentistry may be added according to the requirements and availability of the personnel and resources.

16.06. The Group could visit among the difficult areas only Himachal Pradesh and the Bastar District of Madhya Pradesh. They found that generally the standard of medical care in Primary Health Centres was poor, there was shortage of medical men. and of facilities and of beds and growing demand for greater medical coverage. In a number of Primary Health Centres the sanctioned posts were lying vacant. The Group is of the opinion that the normal rule of one Primary Health Centre for a Community Development Block would need to be relaxed in case of these areas and recommends that the number of Primary Health Centres. wherever the conditions so require, should be raised to two in a Block. The implementation of these recommendations may take time, but the Group would like some pilot projects to be taken immediately in hand.

16.07. The Group also recommends that suitable sub-centres, to be known as 'key villages', should be selected within areas of the Primary Health Centre in such a manner that one or another of the key villages lie within half a day's march from the fartherest village. On the fixed day, widely made known to the people of the area, the doctor from the Primary Health Centre should visit the key village. examine patients and dispense medicine. He should also help patients needing hospitalisation to get admission at the Primary Health Centre. Such visits must occur at least once in a week. Wherever good road facilities are available. mobile-van dispensaries may be established. to render clinical aid at notified places and at fixed time and date.

16.08. Some of hills are snow-bound and completely cut off for a part of the year. During such periods the Primary Health Centre and the mobile doctor and the van lose their utility. The Group recommends that a first-aid kit should be kept in villages either the school teacher or the Surpanch or one of the Panches should be given short training course. It would also be necessary to keep four months supply in tehsil/taluq hospitals and Primary Health Centres and dispensaries for use during the period when roads and pathways are frozen. The Primary Health Centre would need strengthening and the Group recommends that normally in these areas they should have a provision of 10 beds and an additional isolated hut. An additional doctor may also be needed at the Primary Health Centre to go round to key villages or in the mobile dispensary van.

16.09. Elsewhere the Group has dealt with the reluctance on the part of doctors and para-medical men to serve in the rural areas and has suggested some measures for overcoming the reluctance. in the case of difficult areas the reluctance is further accentuated, as the doctor may not be able to move out for long periods. The social amenities there are also much less than in normal rural areas. The Group would like to reiterate, even at the risk of being repetitive, that the Primary Health Centres and the Rural dispensaries in these areas should start with the construction of residential quarters for the doctor and para-medical staff, if it is desired that sanctioned posts may not remain unfilled. Other concessions recommended by the Group to attract doctors to the rural areas may have to be raised higher in case of the difficult areas.

The Group, however, would not like to make any specfic recommendation in this regard as the specific areas may need individual treatment.

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(Sd.) AJIT PRASAD JAIN
*Chairman*
(Sd.) M. M. S. SIDDHU
(Sd.) GIAN PRAKASH
(Sd.) C. B. SINGH
(Sd.) R. D. AYYAR
*Col.*
(Sd.) H. SHAMASASTRY
(Sd.) P. DIESH
*Member-Secretary*

NEW DELHI,
*29th February*, 1968.

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# PART II—APPENDICES

## APPENDIX I

No. F.22-57/64-H

GOVERNMENT OF INDIA

MINISTRY OF HEALTH AND FAMILY PLANNING

*New Delhi, dated the 27th August,* 1966

## *RESOLUTION*

SUBJECT:—*Study Group on Hospitals—Setting up of.*

1. The rapid industrialisation of the country and the constant rise in population has brought in its wake a number of medical and public health problems. Complaints are not infrequently voiced about overcrowding in hospitals, and inadequate provision of staff, drugs, linen and other facilities.

2. A number of Committees previously set up by the Government of India such as the Bhore Committee, the Mudaliar Committee etc. have gone into the various aspects of hospital services and organisation of medical services, but none of these had specifically dealt with the special services and facilities, such as, the central sterilisation services, diet and kitchen facilities, adequacy and system of stocking and issue of the various kinds of drugs, medical records system, mortuaries and other specialised services so important for the efficient management and running of hospitals at various levels.

3. The time has, therefore, come for undertaking a study of the working of the different classes of hospitals in this country with a view to improving the standards of medical care and developing sound guide-lines for the future expansion of hospital services in the country. Accordingly it has been decided to set up a Study Group on Hospitals consisting of the following members—

(1) Shri Ajit Prasad Jain, Ex-Governor, Kerala—*Chairman.*

(2) Dr. M. M. S. Siddhu, Member of Parliament—*Member.*

(3) Dr. C. B. Singh, Member of Parliament—*Member.*

(4) Dr. R. V. Sathe, Vice Chancellor, Bombay University—*Member.*

(5) Shri Gian Prakash, Joint Secretary, Ministry of Health and Family Planning, New Delhi—*Member.*

(6) Col. R. D. Ayyar, Medical Superintendent, Safdarjang Hospital, New Delhi—*Member.*

(7) Dr. C. L. Mukherjee, Director Medical Services, West Bengal, Calcutta—*Member.*

(8) Col. R. R. Rao, Assistant Director General of Health Services, Directorate General of Health Services, New Delhi—*Member-Secretary.*

While visiting the hospitals in the various States the Study Group shall co-opt the Director of Health Services/the Director of Medical Services as Member/s of the Group.

4. This Study Group will take into consideration the findings of previous Committees that have examined different aspects of hospital administration, sift the material already available in those reports and demarcate the field that needs to be further studied by them within their scope of study. It will also fix the priorities for the study of the different subjects.

5. The Study Group will make recommendations on the following matters—

(i) The future pattern of development of hospital services at the regional district and peripheral levels in terms of size and facilities to be provided; the requirements of specialist hospital facilities such as, infectious diseases, tuberculosis chronic and convalescent homes; and phased programme of development to achieve the recommended targets;

(ii) Measures required for integrated development of hospital services so that peripheral units like health centres, dispensaries, M.C.H. centres work in close coordination with the hospital which acts as the referral centre; provision of specialist coverage for the peripheral units from the referral hospital; arrangements providing for regional coverage of the peripheral units and referral hospitals by the teaching hospital in the region so that two or three districts have the medical college as a final referral centre;

(iii) Appropriate standards of staffing; drugs, diet, linen, etc., for hospitals of various sizes;

(iv) provision of hospital pharmacies, central sterilisation facilities and other services like proper kitchens, mortuaries, medical records system, sanitation and security arrangements etc.;

(v) Measures for the augmentation of resources available for medical care facilities including those of pay clinics, system of graded charges for services rendered, health cess, etc.;

(vi) Facilities for Family Planning;

(vii) Any other matter relevant to the objects and purpose of the study.

6. The Study Group will make their recommendations with due regard to the financial position and the known insufficiency of manpower.

7. The Study Group should submit its report within six months.

8. The Study Group will have its headquarters in New Delhi. The members of the Study Group may at their discretion visit representative hospitals in the country and have discussions with the authorities concerned and officials of the State Government. The Study Group may co-opt such persons including foreign experts as they may consider necessary to assist them in their study.

## *ORDER*

Ordered that a copy of the resolution be communicated to the Secretary to the President, Prime Minister's Secretariat, Rajya Sabha Secretariat/Lok Sabha Secretariat, State Governments/Union Territories/Ministries/Departments of the Government of India, Cabinet Secretariat, the Comptroller and Auditor General of India and members of the Study Group.

Ordered also that the resolution be published in the Gazette of India for general information.

(Sd.) R. N. MADHOK
*Joint Secretary to the Government of India*

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## APPENDIX II

### GOVERNMENT OF INDIA

### MINISTRY OF HEALTH AND FAMILY PLANNING

### (DEPARTMENT OF HEALTH)

*New Delhi, the 26th July,* 1967

## *RESOLUTION*

SUBJECT:—*Study Group on Hospitals—setting up of.*

The Study Group on Hospitals set up under this Ministry Resolution No. 22-57/64-H, dated the 27th August, 1966, and extended till the 27th May, 1967 vide Resolution dated the 21st March, 1967, shall also undertake a review of the working of the Central Government Health Scheme, to evaluate its progress and performance and to make suggestions for improvements and reduction in Government liability. It has, therefore, been decided to extend the period of the Study Group up to the end of December, 1967. Other terms and conditions remain unchanged.

## *ORDER*

Ordered that a copy of the resolution be communicated to the Secretary to the President, Prime Minister's Secretariat, Rajya Sabha Secretariat/Lok Sabha Secretariat/State Governments/Union Territories/Ministries/Departments of the Government of India/Cabinet Secretariat/The Comptroller and Auditor General of India and members of the Study Group/D.G.H.S. (C.G.H.S.).

Ordered also that the resolution be published in the Gazette of India for general information.

(Sd.) R. N. MADHOK
*Joint Secretary to the Government of India*

## APPENDIX III

## MEETINGS OF THE HOSPITALS STUDY GROUP HELD AT NEW DELHI

| *Dates of Meetings* | *Subjects Discussed* |
|---|---|
| 12th September, 1966 | Procedure and methods of work. |
| 6th September, 1967 | Hospital Beds. |
| 11th September, 1967 | Wastage of Lady Doctors. |
| 30th September, 1967 | Hospital beds, Out-patient Department, Referral System and integration of Health and Medical Services and Preliminary drafts of Chapters I & II. |
| 15th October, 1967 | Staffing pattern and Primary Health Services. |
| 8th to 10th November, 1967 | Ancillary Services and Diagnostic and X-Ray facilities. |
| 20th and 21st November, 1967 | Special Hospitals. |
| 30th November to 2nd December, 1967 | Augmentation of resources and Family Planning Programme in Hospitals. |
| 18th to 20th December, 1967 | Public Relation Security and Sanitation arrangement and Health Education. |
| 4th to 6th January, 1968 | Central Government Health Scheme. |
| 29th to 31st January, 1968 | Difficult areas and some previous points on Ancillary Services. |
| 15th to 17th February, 1968 | Consideration of the draft report. |
| 28th and 29th February, 1968 | Consideration of the draft report. |

## APPENDIX IV

## HOSPITALS AND OTHER MEDICAL INSTITUTIONS VISITED

### *Assam*

Visits—

1. Bikakhat Primary Health Centre, Sibsagar.
2. Ramesh Das Hospital, Shillong.
3. Assam Medical College, Dibrugarh.
4. Civil Hospital, Nowgong.
5. Primary Health Centre, Dibrugarh.
6. District Hospital, Dibrugarh.
7. Khasi Hills Welsh Mission Hospital, Shillong
8. Medical College, Gauhati.

*Jammu and Kashmir*

1. Medical College, Srinagar.
2. Hospital attached to Medical College, Srinagar.
3. Unani Dispensary, Anjuwadi.
4. Government Hospital, Singhpura.
5. Primary Health Centre, Ratam Village.
6. Baramulah District Hospital.
7. Christian Mission Hospital.
8. Primary Health Centre, Sopore.
9. Chest Disease Hospital.
10. Mental Hospital.
11. Primary Health Centre, Gandherbal.
12. Khanabal Urban Centre.
13. Bijwara Rural Health Centre, Anant Nagar.
14. Christian Mission Hospital, Anant Nagar.
15. Government Achabat Primary Health Centre.

*Kerala*

1. District T. B. Centre, Quillon.
2. Leprosy Sanatorium, Noornad.
3. Government Hospital, Ernakulam.
4. Government Hospital, Alweye.
5. Primary Health Centre, Edapally.
6. District T. B. Centre, Pallurth, Ernakulam.
7. Women and Children Hospital, Mattancherry.
8. Medical College and Hospital, Trivandrum.
9. Family Planning Training Centre, Trivandrum.
10. Rama Krishna Mission Charitable Hospital, Trivandrum.
11. Government General Hospital, Trivandrum.
12. Women and Children Hospital, Trivandrum.

*Madhya Pradesh*

1. Maharani Hospital, Jagdalpur.
2. Primary Health Centre, Narainpur.
3. Primary Health Centre, Dantewada.
4. Primary Health Centre, Kondagaon.
5. Komaldeo Hospital, Kankar.
6. Civil Hospital, Durg.
7. Hospital of the National Mineral Development Corporation at Beladita.

*Madras*

1. Christian Medical College Hospital, Vellore.
2. C.M.C. Hospital, Vellore.
3. Government Hospital, Wandiwash.
4. Chingleput Medical College Hospital, Chingleput.
5. Chingleput Medical College, Chingleput.
6. Primary Health Centre, Thirukshikundram.
7. Voluntary Health Services, Adyar, Madras.
8. Government Mental Hospital, Madras.
9. Free Allopathic Dispensary, Basin Bridge Road, Madras.
10. Child Welfare Centre of the Corporation, Madras.
11. Madras Corporation Dispensary Thyagarayanagar, Basin Bridge Road, Madras City.

*Maharashtra*

1. C.G.H.S. Organisation, Bombay.
2. Central Mental Hospital, Poona.
3. Sassoon Hospital, Poona.
4. K.E.M. Hospital, Poona.
5. Primary Health Centre, Kawathe.
6. Cottage Hospital, Karad.
7. Primary Health Centre, Indoli.
8. General Hospital, Satara.
9. J. J. Group of Tatas of Blood Transfusion, Bombay.
10. J. J. Hospital, Bombay.
11. K.E.M. Hospital, Bombay.
12. M.G.M. Hospital, Bombay.

*Mysore*

1. Victoria Hospital.
2. Vani Vilas Hospital for Women and Children.
3. Minto Ophthalmic Hospital.
4. Bangalore Medical College.
5. St. Martha's Hospital.
6. Government General Hospital.
7. Primary Health Centre, Bidadi.
8. Health Training Centre, Ramanagaram.
9. Channapatna Taluk Hospital.
10. Orientation Training Centre, Mandya.
11. Mysore Medical College.
12. Rani Cheluvamba Hospital, Mysore.

*Uttar Pradesh*

1. Medical College, Lucknow.
2. Primary Health Centre and Rural Health Training Centre, Sarojini Nagar.
3. G.S.V.M. Medical College, Kanpur.
4. L.L.R. & Associated Hospital, Kanpur.
5. E.S.I. Hospital, Kanpur.
6. J.K. Institute of Radiology and Cancer Research, Kanpur.
7. Upper India Sugar Exchange Ltd., Maternity Hospital, Kanpur.
8. Eye Hospital, Kanpur.
9. District Hospital, Unnao.
10. T.B. Clinic, Unnao.
11. Primary Health Centre, Nawabganj.
12. Balrampur Hospital, Lucknow.

*West Bengal*

1. Medical College, Calcutta.
2. Tropical School for Medicines, Calcutta.
3. Carnichad Hospital for Tropical Diseases.
4. Primary Health Centre, Bauri Puri.
5. Poly-Clinic, Government of West Bengal, Calcutta.
6. Infectious Diseases Hospital, Calcutta.
7. B. C. Roy Memorial Hospital for Children.
8. District M. R. Bango Hospital, 24 Parganas.
9. Rama Krishna Mission Seva Pratishthan Hospital, Calcutta.
10. Dr. B. C. Roy, Diagnostic & Research Laboratories.
11. All India Institute of Hygiene and Public Health, Calcutta.

## UNION TERRITORIES

*Delhi*

1. T.B. Centre, Moti Nagar.
2. Roopram Health Centre, Khanjawala.
3. Lady Hardinge Medical College and Hospital, New Delhi.
4. Kalavati Saran Hospital, New Delhi.
5. Hindu Rao Hospital, Delhi.
6. M.C.D. Health Centre, Lajpat Nagar, New Delhi.
7. Safdarjang Hospital, New Delhi.
8. Sir Ganga Ram Hospital Rajindra Nagar, New Delhi.
9. Maulana Azad Medical College, New Delhi.
10. Irwin Hospital, New Delhi.
11. Pant Hospital, Delhi.

*Himachal Pradesh*

1. Solan Hospital.
2. Snowdon Hospital, Simla.
3. Medical College, Simla.
4. Government Maternity Hospital, Simla.
5. Tehsil Hospital at Theog.
6. Primary Health Centre at Matiana.
7. District Hospital, Bilaspur.
8. Primary Health Centre at Martand.
9. District Hospital, Mandi.

## APPENDIX V

## BASIC DATA FOR SUBMISSION TO HOSPITAL STUDY GROUP

1. Name of the State.
   Population estimates for the State as on 1-3-1966.
   Total No. of districts.
   Population of each district in an appendix.
2. (a) No. of medical institutions.
   - (i) Hospitals.
   - (ii) Primary Health Centres.
   - (iii) Dispensaries.
   - (iv) Maternity and Child Welfare Centres not covered by (i), (ii), (iii).
   - (v) Mobile Dispensaries.
   - (vi) Mobile Dental Clinics.

   (b) Total No. of beds as on 1-3-1966.
   (c) Bed population ratio.
3. Special institutions.
   - (a) No. of Mental Hospitals.
     No. of Beds.
   - (b) No. of T.B. Hospitals.
     No. of Beds.
   - (c) No. of Ophthalmic Hospitals.
     No. of Beds.
   - (d) No. of Leprosy Hospitals/Homes.
     No. of Beds.
   - (e) No. of T.B. Clinics.
   - (f) No. of V.D. Clinics.
   - (g) Dental Clinics including those forming part of hospitals.
   - (h) Institutions having facilities for treatment of cancer.
   - (i) Institutions with X-ray facilities.
4. (a) No. of District Hospitals.
   Total No. of beds in hospitals.
   No. of district hospitals having specialist services of physician, surgeon and gynaecologist.
   Cost per bed per year.
   Cost of diet per day.
   Cost of medicine for inpatient per day.

   (b) No. of Taluq, Sub-division or Tehsil Hospitals.
   Total No. of beds in hospitals.
   Cost per bed per year.
   Cost of diet per patient per day.
   Cost of medicine per day for inpatient.

5. Laboratory services.
   (a) No. of State Public Health Labs.
   (b) No. of District Public Health Labs.
   (c) No. of hospital Labs. forming part of college hospitals and district hospitals and not included in (a) & (b) above.

6. Details of Primary Health Centres:
   1. No. of Blocks.
   2. No. of Primary Health Centres functioning.
   3. No. of sub-centres functioning.
   4. No. of Primary Health Centres assisted by the UNICEF.
   5. No. of Blocks without Primary Health Centres.
   6. No. of Primary Health Centres in rental buildings.
   7. Primary Health Centres having their own buildings.
   8. Buildings for Primary Health Centres under construction.
   9. No. of Primary Health Centres having
      (a) Two medical officers
      (b) One medical officer.

7. Facilities of Family Planning Services at District Hospital, Taluq or sub-division hospital levels.

8. Blood Transfusion facilities at District and sub-division hospitals.

9. To what extent the following services are available and at what levels.
   (a) Hospital pharmacies
   (b) Central Sterilisation facilities

10. Average standards of staffing, drugs, diet, linen of medical college hospital, District hospital and Tehsil or sub-divisional hospital.

11. Stage of development of referral system providing regional coverage starting from peripheral units of Primary Health Centres.

12. Main features of stores including medical stores, purchase, storage and distribution to dependent units.

13. Is honorary system of medical practitioners, physicians, surgeons etc. working in various hospitals prevalent in the State? If so, please append a copy of the rules governing the system.

14. Any problems special to your State which are relevant to the objects and purposes of the Study e.g. communicable diseases like Filaria, Leprosy, Trachoma, etc. or special problems like goitre.

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## APPENDIX VI

## EXPERTS WHO CAME FOR EVIDENCE

1. Dr. Bhola Nath, President, Indian Medical Association, New Delhi.
2. Dr. C. S. Patel, President, Medical Council of India, New Delhi.
3. Dr. K. N. Rao, Director General of Health Services, New Delhi.
4. Dr. D. Bhatia, Commissoner, Family Planning, Department of Family Planning, Ministry of Health, Family Planning and Urban Development, New Delhi.
5. Dr. T. R. Tewari, Director, National Institute of Health Administration and Education, New Delhi.
6. Dr. A. Timmappayya, Professor of Hospital Administration, National Institute of Health Administration and Education, New Delhi.
7. Dr. Mahindra Prasad, Asstt. Director Health Services, World Health Organisation, New Delhi.
8. Miss D. C. Hall, Regional Nursing Adviser, World Health Organisation, New Delhi.
9. Dr. P. K. Duraiswami, Additional Director General of Health Services, New Delhi.
10. Dr. P. R. Dutt, Deputy Director General (Cholera), Directorate General of Health Services, New Delhi.
11. Dr. (Miss) V. Sebastian, Adviser, M. C. H., Department of Family Planning, Ministry of Health, Family Planning and Urban Development, New Delhi.
12. Mr. M. G. Pandit, Assistant Director General (Stores), Directorate General of Health Services, New Delhi.
13. Dr. N. L. Bordia, Adviser in Tuberculosis, Directorate General of Health Services, New Delhi-1.
14. Mr. J. D. Shastri, Senior Architect, Directorate General of Health Services, New Delhi.
15. Mr. S. K. Borker, Drugs Controller (India), Directorate General of Health Services, New Delhi-1.
16. Mrs. T. K. Kuppuswami, Senior Dietician, Directorate General of Health Services, New Delhi.
17. Dr. A. L. Mudaliar, Vice Chancellor, Madras University, Madras.
18. Dr. P. B. Bakshey, Superintendent, Mental Hospital, Shahdra, Delhi.
19. Dr. S. B. Mathur, Psychiatrist, Irwin Hospital, New Delhi.

## APPENDIX VII

## SUMMARY OF RECOMMENDATIONS OF THE HEALTH SURVEY AND DEVELOPMENT COMMITTEE (BHORE COMMITTEE) IN RESPECT OF MEDICAL CARE.

The main base of the recommendations of the Bhore Committee in regard to medical relief was in the form of the short and the long term plans built up on an integrated curative and preventive service manned by whole-time salaried staff. The committee left to the Governments of the future to decide whether medical service should be given free to all or on a system of payment through insurance or by some other methods.

The short-term programme of the Bhore Committee proposed the setting up of primary health centres at the periphery catering to a population of 40,000 each. A 30-bedded hospital was intended to be provided to serve four primary health centres. A secondary health centre with an initial bed strength of 200, to be raised to 500 by the end of the tenth year, was another part of the programme. The secondary health centre was to cater to a population of 600,000 and serve as a supervisory coordinating and referral centre for the primary health centres in the area. It was visualised that at the district level there would be 500 beds in the short term plan. It was anticipated that that the bed population ratio would rise to 1.3 per thousand in the course of 10 years, and to 2 beds per thousand by 15 years. Mobile dental clinics and dental wings were also recommended and it was hoped that with improved communications and means of transport and telephone and ambulance service, the best medical skill would be brought within the reach of the entire population through the system of primary, secondary and district health centres. Each primary health centre in the short term programme was to have 2 Medical Officers, 4 Public Health Nurses, 4 Midwives, 4 trained Dais, 2 Sanitary Inspectors, 2 Health Inspectors, 2 Clerks and 15 class IV employees.

In the long-term plan—the 3 million plan, the District Health Organisation was to have a hospital with a bed strength of 2,500 at the district headquarters, 3 to 5 Secondary Centres each with 650 beds, and 15 to 25 Primary Health Units with a bed strength of 75 each, catering to a population of 10 to 20 thousands. Each Primary Health Unit under a long term plan was to have six Medical Officers, 6 Public Health Nurses with the requisite nursing and other ancillary staff. An adequate number of Social Workers, Public Health Nurses etc. was to be attached to the institutions at the various levels to allow complete institutional and domiciliary medical coverage to the entire population. This plan was to take the bed population ratio to 5.6 per thousand. For this programme it would be necessary to have about 2.3 lakh doctors and 6.7 lakh nurses.

## Appendix VIII

## SUMMARY OF OUTLAYS, OBJECTIVES AND TARGETS OF FIRST, SECOND, AND THIRD FIVE YEAR PLANS

### 1. *Outlay*

| Health Schemes | 1st Plan | | 2nd Plan | | 3rd Plan | | 4th Plan | |
|---|---|---|---|---|---|---|---|---|
| | Out-lay | % to total out-lay | Out lay | % to total out lay | Out lay | % to total out-lay | Out-lay | % to total out lay |
| 1. Water Supply & Sanitation .. | 49·0 | 35·00 | 76·0 | 33·77 | 105·3 | 30·81 | 373·00 | 38·85 |
| 2. PHCs, Hospitals and Dispensaries | 25·0 | 17·86 | 36·0 | 16·00 | 61·7 | 18·05 | 181·00 | 18·85 |
| 3. Control of Communicable Diseases | 23·1 | 16·50 | 74·0 | 28·44 | 70·5 | 20·63 | 86·68 | 9·04 |
| 4. Medical Education Training and Research .. | 21·6 | 15·43 | 36·0 | 16·00 | 56·3 | 16·47 | 178·30 | 18·57 |
| 5. I.S.M. .. | 00·4 | 0·29 | 4·00 | 1·76 | 9·8 | 2·87 | 10·00 | 1·04 |
| 6. Other Schemes | 20·2 | 14·42 | 6·0 | 2·68 | 11·2 | 3·27 | 26·02 | 3·75 |
| 7. Family Planning | 0·7 | 0·50 | 3·0 | 1·30 | 27·0 | 7·90 | 95·00 | 9·90 |
| Total .. | 140·0 | 100·0 | 225·0 | 100·0 | 341·0 | 100·00 | 960·0 | 100·0 |
| Percentage of the total plan (Public Sector only). | | 5·93 | | 4·90 | | 4·20 | | 6·00 |

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### 2. *Objectives*

*First Plan*

(i) Provision of water supply and sanitation;
(ii) Control of Malaria;
(iii) Preventive health care of the rural population through health units and mobile units.
(iv) Health services for mothers and children;
(v) Education and training and health education;
(vi) Self-sufficiency in drugs and equipment.
(vii) Family Planning and population control.

*Second Plan*

(i) Establishment of institutional facilities to serve as bases from which services can radiate to the people;
(ii) Development of technical manpower through appropriate training programmes;
(iii) Measures to control communicable diseases which may be widely prevalent in a community;
(iv) An active campaign for the improvement of environmental sanitation; and
(v) Family planning and other concurrent programmes for limiting the population and raising the standards of health of the people.

*Third Plan*

- (i) Improvement of environmental sanitation, especially rural and urban water supply;
- (ii) Control of communicable diseases;
- (iii) Provision of adequate institutional facilities to serve as basis for organising health services;
- (iv) Provision of facilities for the training of medical and health personnel;
- (v) Public health services including material and child welfare health education and nutrition; and
- (vi) Family Planning.

3. *Targets and achievements*

| Programme | Achievements 1st Plan | Achievements 2nd Plan | Targets 3rd Plan | Achievement 3rd Plan |
|---|---|---|---|---|
| **Institutions (Hospitals and Dispensaries)** | 10,000 | 12,600 | 14,600 | 14,600 |
| **Beds** | 125,000* | 185,000* | 240,100* | 240,100* |
| **Primary Health Centres** | 725 | 2,800 | 5,000 | 4,920 |
| **Medical Colleges** | 42 | 57 | 75 | 87 |
| **Annual Admissions** | 3,500 | 5,500 | 8,000 | 10,520 |
| **Dental Colleges** | 7 | 10 | 14 | 13 |
| **Annual admissions** | 231 | 281 | 400 | 506 |
| **Manpower—** | | | | |
| Doctors† | 65,000 | 70,000 | 81,000 | 86,000 |
| Nurses‡ | 18,500 | 27,000 | 45,000 | 45,000 |
| Auxiliary Nurse Midwives | 12,780 | 19,920 | 48,500 | 36,000 |
| Control of Diseases— | | | | |
| (*i*) N.M.E.P.— | | | | |
| Units | 133 | 390 | 390 | 393·25 |
| Population covered (millions) | 107 | 438 | 497 | AP 80·26<br>CP 170·36<br>MP 142·63 |
| (*ii*) N.I.C.P.— | | | | |
| Control Units | .. | .. | 184 | 181 |
| S.E.T. Centres | 33 | 135 | 980 | 774 |
| Training Centres for non-Medical assistants | .. | .. | 10 | 10 |
| (*iii*) Tuberculosis— | | | | |
| B.C.G. Teams functioning | 119 | 167 | 167 | 197 |
| Persons tuberculine tested (in millions) | .. | .. | .. | 153·40 |
| Persons vaccinated (in millions) | .. | .. | .. | 13·90 |
| (*iv*) Smallpox— | | | | |
| Primary vaccinations (in millions) | .. | .. | .. | 61·75 |
| Revaccination | .. | .. | .. | 394·26 |

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‡Upto June, 1967

†Active in practice. These have been arrived at after applying attrition due to retirement, deaths etc.

£ The Pilot Project was initiated during the last year of the 2nd Plan.

*Only Government beds.

AP—Attack Phase, CP—Consolidation Phase, MP—Maintenance phase.

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## APPENDIX IX

## SUMMARY OF THE RECOMMENDATIONS* OF THE HEALTH SURVEY AND PLANNING COMMITTEE, 1961 (MUDALIAR COMMITTEE).

1. Free medical aid as visualised by Bhore Committee does not appear to be feasible in the near future. A system of graded charges for all hospital services except in the case of genuinely indigent patients is called for.

2. Extension of medical care through promotion of health insurance needs to be taken up. Scope of E.S.I. and C.G.H.S. should be extended to cover other sectors of population in the case of former and by bringing all Government servants within the purview of latter, as early as possible.

3. Development of medical care facilities on co-operative lines, through suitable subsidies should be encouraged.

4. The programme of Primary Health Centre as it has developed bears no resemblance to that visualised by Bhore Committee. It needs to be radically revised and opening of Primary Health Centres should serve as population of 40,000 and should have full complement of staff as recommended by the Bhore Committee (2 medical officers, 4 Public Health Nurses, 4 Midwives, 4 trained Dais, 2 Sanitary Inspectors, 2 Health Inspectors, One Pharmacist, 2 clerks and 15 Class IV staff). It should have 10 beds including 2 emergency beds attached to each of them. Existing Primary Health Centres should be upgraded by stage to reach to the full-fledged pattern.

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5. The Taluk Hospital should take over the routine medical, surgical, obstetrical and gynaecological needs of the area. Mobile teams of specialists should cover all areas of the district and should provide necessary supervisory and consultant facilities at the periphery. They should have a minimum bed strength of 50 and should have three medical officers with medicines, surgery and obstetrics and gynaecology. They should serve as referral hospital for routine cases from two or three Primary Health Centres in that area. Good clinical side room facilities should be available. One of the three medical officers should have had training in laboratory work.

6. District hospitals should occupy the key position in regard to medical care. They should be expanded and strengthened with specialists facilities. They should have 300 to 500 beds out of which 75 for maternity and 50 for Paediatrics. Specialist services in Medi-

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*Recommendations which are relevant to the terms of reference of the Study Group are given here.

cine, Surgery, Obstetrics and Gynaecology, Eye, Ear, Nose and Throat, Paediatrics, T.B., Dentistry and V.D. should be provided. Specialists in Medicine Surgery and Obstetrics should have a status of Civil Surgeon. There should be an Isolation Unit of 50 beds attached to the District Hospital. T.B. Clinic and Public Health Laboratory at the District Headquarters should work in close association with the District Hospital. There should be a chronic and convalescent hospital in order to relieve the congestion in the hospital and consequent strain on the staff. In each District Hospital there should be a Psychiatric Clinic and 50 beds should be earmarked for such cases.

7. A number of District Hospitals should be linked with the teaching hospital on a regional basis in order to get expert advice and assistance in the matter of investigation, diagnosis and treatment. In each district and teaching institution Blood Bank Services should be available. The headquarters of each State should develop a special Department for blood transfusion service. In planning Hospitals the basis of one bed for every 1000 population should be taken for each district.

8. The out-patient Department should be outside the compound of the In-patient Department with a separate entrance. The Casualty and Orthopaedic Departments should be attached to Out-Patient Department. Certain Departments like Eye, ENT, should also safely be situated in the O.P. Department. X-ray, Laboratory Services, Medicines, anti-rabic treatment special clinics like diabetic clinic, boarder line mental clinic, chest clinic should also be located in the O.P. Department.

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9. At the State level, there is also need for such side hospitals as Children's Hospital, Maternity Hospitals, Cancer Hospital, Leprosy Hospital, requiring isolation, surgery and rehabilitation, infectious Diseases Hospitals, Mental Hospitals, District Phychiatric Clinics, T.B. Hospitals with Physiotherapy, occupational therapy and other facilities.

10. In each State there should be one Ophthalmic Hospital with 300 to 500 beds and centres for the rehabilitation of the adult blind should be opened.

11. At the district level there should be a fully equipped and staffed Dental Clinic. Besides, the Dental Surgeon there should be dental hygienist and a dental mechanic. In addition, Dental Mobile vans should function in district to serve the interior on a carefully drawn schedule. At the Primary Health Centres, some orientation in dental care may be given to the auxiliary health worker.

## APPENDIX X

# NUMBER OF HOSPITALS AND DISPENSARIES IN URBAN AND RURAL AREAS AS ON 31-12-1965

| State/Union Territories | No. of Hospitals | | | No. of Dispensaries | | |
|---|---|---|---|---|---|---|
| | Rural | Urban | Total | Rural | Urban | Total |
| 1. Andhra Pradesh .. .. | * | * | 311 | * | * | 160 |
| 2. Assam .. .. .. | 21 | 56 | 77 | 720 | 4 | 724 |
| 3. Bihar .. .. .. | 39 | 118 | 157 | 670 | 42 | 712 |
| 4. Gujarat† .. .. .. | * | * | 134 | * | * | 1,408 |
| 5. Jammu and Kashmir .. .. | — | 26 | 26 | 520 | 53 | 573 |
| 6. Kerala .. .. .. | 68 | 47 | 115 | 208 | 8 | 216 |
| 7. Madhya Pradesh .. .. | 42 | 154 | 196 | 337 | 189 | 526 |
| 8. Madras† .. .. .. | 158 | 135 | 293 | 437 | 197 | 634 |
| 9. Maharashtra .. .. .. | 17 | 371 | 388 | 734 | 258 | 992 |
| 10. Mysore .. .. .. | 41 | 137 | 178 | 459 | 146 | 605 |
| 11. Orissa .. .. .. | 104 | 79 | 183 | 253 | 49 | 302 |
| 12. Punjab .. .. .. | 18 | 161 | 179 | 305 | 164 | 469 |
| 13. Rajasthan .. .. .. | 148 | 239 | 387 | 128 | 173 | 301 |
| 14. Uttar Pradesh .. .. | 293 | 533 | 826 | 718 | 278 | 996 |
| 15. West Bengal .. .. | 87 | 179 | 266 | 395 | 122 | 517 |
| 16. Nagaland .. .. .. | 25 | 4 | 29 | 31 | — | 31 |
| 17. Andaman Nicobar Islands .. | 7 | 2 | 9 | 36 | 4 | 40 |
| 18. Delhi† .. .. .. | — | 42 | 42 | 25 | 93 | 118 |
| 19. Goa, Daman & Diu .. .. | 12 | 42 | 54 | 32 | 14 | 46 |
| 20. Himachal Pradesh .. .. | 9 | 11 | 20 | 204 | 2 | 206 |
| 21. L.M. & A. Islands .. .. | 2 | — | 2 | 7 | — | 7 |
| 22. Manipur .. .. .. | 7 | 5 | 12 | 55 | 3 | 58 |
| 23. Pondicherry .. .. .. | 1 | 8 | 9 | 15 | 6 | 21 |
| 24. Tripura .. .. .. | 6 | 7 | 13 | 94 | 2 | 96 |
| 25. N.E.F.A. .. .. .. | 51 | — | 51 | 37 | — | 37 |
| Total .. | 1,156 | 2,356 | 3,957 | 6,413 | 1,807 | 9,788 |

NOTE— *Not available.
— Nil
†Information 1964.

## APPENDIX XI

## MEDICAL FACILITIES AVAILABLE AT VARIOUS LEVELS IN STATES

| Name of the State | Regional level (Teaching Hospital) | | District level | | Tehsil level | | Village level | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. of Hospitals | No. of beds | No. of Hospitals | No. of beds | No. of Hospitals | No. of beds | No. of Hospitals | No. of beds | No. of Hospitals | No. of beds |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Andhra Pradesh .. | 24 | 9,419 | 43 | 4,673 | 249 | 8,048 | 405 | 2,430 | 721 | 24,570 |
| Assam | 5 | 1,841 | 27 | 1 ,773 | 43 | 1,793 | 77 | 462 | 152 | 5,869 |
| Bihar .. | 6 | 3,314 | 51 | 3,133 | 71 | 2,424 | 624 | 3,744 | 752 | 12,615 |
| Gujarat .. | 9 | 3,258 | 41 | 4,434 | 66 | 2,529 | 244 | 1,464 | 359 | 11,685 |
| Jammu & Kashmir | 3 | 1,200 | 16 | 1,300 | 2 | 105 | 57 | 342 | 78 | 2,947 |
| Kerala .. | 6 | 3,399 | 16 | 4,869 | 76 | 7,372 | 163 | 978 | 261 | 16,618 |
| Madhya Pradesh | 12 | 4,198 | 89 | 6,236 | 156 | 4,080 | 414 | 2,484 | 671 | 16,998 |
| Madras .. | 6 | 3,406 | 26 | 8,619 | 212 | 6,690 | 251 | 1,506 | 495 | 20,221 |
| Maharashtra | 19 | 8,527 | 154 | 14,452 | 76 | 3,733 | 429 | 2,574 | 4,335 | 29,286 |
| Mysore .. | 10 | 4,115 | 80 | 10,415 | 86 | 4,316 | 443 | 2,658 | 619 | 21,504 |
| Orissa .. | 3 | 1,774 | 36 | 2,505 | 133 | 2,549 | 296 | 1,776 | 468 | 8,604 |
| Punjab .. | 9 | 3,543 | 61 | 3,945 | 99 | 4,486 | 211 | 1,266 | 380 | 13,240 |
| Rajasthan .. | 17 | 5,047 | 68 | 3,365 | 229 | 3,111 | 231 | 1,386 | 545 | 12,909 |
| Uttar Pradesh | 16 | 4,412 | 328 | 16,525 | 315 | 5,964 | 651 | 3,906 | 1,310 | 30,807 |
| West Bengal | 5 | 3,581 | 116 | 14,193 | 147 | 8,904 | 218 | 1,308 | 486 | 27,986 |
| Nagaland | — | — | 5 | 363 | 23 | 327 | 3 | 18 | 31 | 708 |
| Delhi .. | 7 | 5,205 | 38 | 3,881 | — | — | 5 | 30 | 50 | 9,116 |
| Goa, Daman & Diu | 1 | 250 | 10 | 587 | 29 | 810 | 19 | 114 | 59 | 1,761 |
| Pondicherry | 1 | 447 | 2 | 236 | 4 | 340 | 12 | 72 | 19 | 1,095 |
| Tripura .. | — | — | 3 | 388 | 7 | 160 | 22 | 132 | 32 | 680 |
| Manipur .. | — | — | 4 | 326 | 7 | 100 | 12 | 72 | 23 | 498 |
| A. & N. Islands | — | — | 1 | 194 | 8 | 240 | — | — | 9 | 434 |
| Himachal Pradesh .. | 1 | 250 | 4 | 247 | 15 | 454 | 72 | 432 | 92 | 1,383 |
| N.E.F.A. .. | — | — | N.A. | N.A. | N.A. | N.A. | 105 | 630 | 105 | 630 |
| L.M.A. Islands | — | — | N.A. | N.A. | N.A. | N.A. | 7 | 42 | 7 | 42 |
| Dadra & Nagar Haveli .. | — | — | N.A. | N.A. | N.A. | N.A. | 2 | 12 | 2 | 12 |
| Total | 160 | 67,186 | 1,219 | 1,06,659 | 2,053 | 68,535 | 4,973 | 29,838 | 8,405 | 2,72,218 |
| % (with respect to corresponding total) | 1·9 | 24·7 | 14·5 | 39·2 | 24·4 | 25·2 | 59·2 | 10·9 | 100·0 | 100·0 |

N.A.—Not available.

## APPENDIX XII

## NUMBER OF BEDS IN RURAL AND URBAN AREAS AS ON 31-12-1965

| State/Union Territories | Number of Beds | | |
|---|---|---|---|
| | Rural | Urban | Total |
| 1. Andhra Pradesh .. .. .. | † | † | 28,473 |
| 2. Assam .. .. .. | 959 | 4,693 | 5,922 |
| 3. Bihar .. .. .. | 3,438 | 13,743 | 17,181 |
| 4. Gujarat* .. .. .. | † | † | 12,002 |
| 5. Jammu & Kashmir .. .. .. | † | † | 3,814 |
| 6. Kerala .. .. .. | 6,749 | 10,434 | 17,183 |
| 7. Madhya Pradesh .. .. .. | 2,313 | 12,236 | 14,549 |
| 8. Madras* .. .. .. | 5,957 | 18,558 | 24,515 |
| 9. Maharashtra .. .. .. | 1,176 | 34,695 | 35,871 |
| 10. Mysore .. .. .. | 3,673 | 17,425 | 21,098 |
| 11. Orissa .. .. .. | 3,100 | 5,488 | 8,588 |
| 12. Punjab .. .. .. | 3,008 | 12,413 | 16,421 |
| 13. Rajastan .. .. .. | 1,368 | 10,709 | 12,077 |
| 14. Uttar Pradesh .. .. .. | 5,505 | 25,368 | 30,873 |
| 15. West Bengal .. .. .. | 12,034 | 21,133 | 33,167 |
| 16. Nagaland .. .. .. | 391 | 310 | 701 |
| 17. Andaman & Nicobar Islands .. | 220 | 208 | 428 |
| 18. Delhi* .. .. .. | 47 | 7,832 | 7,879 |
| 19. Goa, Daman, Diu Islands .. .. | 333 | 1,600 | 1,933 |
| 20. Himachal Pradesh .. .. .. | 749 | 1,243 | 1,992 |
| 21. L. M. & A. Islands .. .. .. | 120 | — | 120 |
| 22. Manipur .. .. .. | 188 | 326 | 514 |
| 23. Pondicherry .. .. .. | 239 | 1,050 | 1,289 |
| 24. Tripura .. .. .. | 259 | 530 | 1,289 |
| 25. N.E.F.A. .. .. .. | 728 | — | 728 |
| Total .. | 52,554 | 1,99,994 | 2,97,107 |

NOTE— †Not Available,
— Nil
*Information 1964.

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## APPENDIX XIII

## NUMBER OF BEDS AND BED-POPULATION RATIO AS ON 31-12-1965

| States/Union Territories | Hospital Beds | Beds per 1000 of Population | Deviation from the average for the country |
|---|---|---|---|
| 1. Andhra Pradesh | 28,473 | 0·73 | +0·12 |
| 2. Assam | 5,922 | 0·44 | —0·17 |
| 3. Bihar | 17,181 | 0·33 | —0·28 |
| 4. Gujarat | 12,002 | 0·52 | —0·09 |
| 5. Jammu & Kashmir | 3,814 | 1·01 | +0·40 |
| 6. Kerala | 17,183 | 0·91 | +0·30 |
| 7. Madhya Pradesh | 14,549 | 0·40 | —0·21 |
| 8. Madras | 24,515 | 0·68 | +0·07 |
| 9. Maharashtra | 35,871 | 0·81 | +0·20 |
| 10. Mysore | 21,098 | 0·81 | +0·20 |
| 11. Orissa | 8,588 | 0·44 | —0·17 |
| 12. Punjab | 15,421 | 0·67 | 0·06 |
| 13. Rajasthan | 12,077 | 0·53 | —0·08 |
| 14. Uttar Pradesh | 30,873 | 0·38 | —0·23 |
| 15. West Bengal | 33,167 | 0·85 | +0·24 |
| 16. Andaman & Nicobar | 428 | 5·65 | +4·04 |
| 17. Delhi | 7,879 | 2·39 | +1·78 |
| 18. Goa, Daman & Diu | 1,933 | 2·95 | +2·34 |
| 19. Himachal Pradesh | 1,992 | 1·33 | +0·72 |
| 20. Laccadive, Minicoy and Amindive Islands | 120 | 4·67 | +4·06 |
| 21. Manipur | 514 | 0·56 | —0·05 |
| 22. Pondicherry | 1,289 | 3·19 | +2·58 |
| 23. Tripura | 789 | 0·61 | +0·00 |
| 24. N.E.F.A. | 728 | 2·01 | +1·40 |
| 25. Nagaland | 701 | 1·77 | +0·16 |
| Total/All India Average | 2,97,107 | 0·61 | |

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*N.B.*—At the end of 1967 the number of beds has been estimated as 3,20,000.

L/P(D)187MofH&FP—10

## APPENDIX XIV

## DISTRIBUTION OF BEDS BY THE SIZE OF THE HOSPITAL

| Size of Hospital | No. of Hospitals | Percentage | | No. of beds | Percentage | |
|---|---|---|---|---|---|---|
| 12—49 | 1,437 | 55·3 | | 32,350 | 14·0 | |
| 50—99 | 515 | 19·7 | | 30,839 | 13·4 | |
| 100—199 | 351 | 13·7 | | 41,966 | 18·2 | |
| 200—299 | 110 | 4·2 | 11·3 | 24,360 | 18·5 | 54·4 |
| 300—499 | 82 | 3·2 | | 27,039 | 11·7 | |
| 500 & over | 103 | 3·9 | | 74,386 | 32·2 | |

*N.B.*—The above information has been compiled with the help of data given in the Special issue of Swasthya Samachar on 'Hospitals in India' and it relates to the years 1963/64 in most of the cases.

## APPENDIX XV

## POPULATION SERVED BY ONE MEDICAL INSTITUTION DURING 1965.

| Name of the States | Population served by one medical institution | |
|---|---|---|
| | Rural | Urban |
| Andhra Pradesh | + | + |
| Assam | 16,734 | 16,666 |
| Bihar | 66,290 | 26,875 |
| Gujarat | + | + |
| Jammu and Kashmir | 6,077 | 8,100 |
| Kerala | 57,970 | 50,909 |
| Madhya Pradesh | 81,266 | 15,160 |
| Madras* | 44,538 | 29,217 |
| Maharashtra | 42,210 | 19,873 |
| Mysore | 40,400 | 20,848 |
| Orissa | 50,420 | 10,160 |
| Punjab | 57,275 | 14,460 |
| Rajasthan | 68,840 | 9,223 |
| Uttar Pradesh | 69,930 | 12,947 |
| West Bengal | 61,410 | 31,890 |
| Nagaland | 6,785 | 5,000 |
| A. & N. Islands | 1,372 | 2,833 |
| Delhi* | 16,000 | 21,480 |
| Goa, Daman & Diu | 12,500 | 1,964 |
| Himachal Pradesh | 6,714 | 5,385 |
| L.M. & A. Islands | 2,890 | — |
| Manipur | 13,550 | 10,000 |
| Pondicherry | 18,750 | 7,143 |
| Tripura | 11,800 | 13,383 |
| NEFA | 4,090 | — |
| All India average | 52,708 | 21,042 |

## APPENDIX XVI

## STATEMENT SHOWING THE NUMBER OF STUDENTS ADMITTED TO I. M.B.B.S. COURSE IN VARIOUS MEDICAL COLLEGES IN INDIA DURING 1965.

| Name of the State | Men | Women | Total |
|---|---|---|---|
| **Andhra Pradesh—** | | | |
| 1. Andhra Medical College, Vishakapatnam | 117 | 33 | 150 |
| 2. Guntur Medical College, Guntur | 95 | 52 | 147 |
| 3. Kurnool Medical College, Kurnool | 93 | 19 | 112 |
| 4. Osmania Medical College, Hyderabad- Dn. | 128 | 58 | 180 |
| 5. Gandhi Medical College, Hyderabad-Dn. | 67 | 28 | 95 |
| 6. Rangaraya Medical College, Kakinada | 124 | 25 | 149 |
| 7. Kakatiya Medical College, Warangal | 56 | 13 | 69 |
| 8. S. V. Medical College, Tirupati, Distt. Chittoor | 60 | 39 | 99 |
| Total | 740 | 261 | 1,001 |
| **Assam—** | | | |
| 9. Assam Medical College, Dibrugarh | 127 | 41 | 168 |
| 10. Gauhati Medical College, Gauhati<br>11. Medical College, Silchar | 91 | 21 | 112 |
| Total | 218 | 62 | 280 |
| **Bihar—** | | | |
| 12. Prince of Wales Medical College, Patna | 136 | 42 | 178 |
| 13. Darbhanga Medical College, Laherisarai | 138 | 30 | 168 |
| 14. Rajinder Medical College, Ranchi | 140 | 30 | 170 |
| 15. Medical College, Damodar Road, Sakchi, Jamshedpur | 68 | 7 | 75 |
| Total | 482 | 109 | 591 |
| **Gujarat—** | | | |
| 16. B. J. Medical College, Ahmedabad | 143 | 67 | 210 |
| 17. Medical College, Baroda | 106 | 19 | 125 |
| 18. M. R. Shah Medical College, Jamnagar | 112 | 33 | 145 |
| 19. Municipal Medical College, Ahmedabad | 62 | 39 | 101 |
| 20. Medical College, Surat | 43 | 17 | 60 |
| Total | 466 | 175 | 641 |
| **Jammu and Kashmir—** | | | |
| 21. Medical College, Srinagar | 63 | 34 | 97 |
| **Kerala—** | | | |
| 22. Medical College, Trivandrum | 137 | 49 | 186 |
| 23. Medical College, Calicut | 137 | 43 | 180 |
| 24. Medical College, Kottayam | 50 | 24 | 74 |
| 25. Medical College, Alleppey | 50 | 10 | 60 |
| Total | 374 | 126 | 500 |

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## APPENDIX XVI—*contd.*

| Name of the State | Men | Women | Total |
|---|---|---|---|
| Madhya Pradesh— | | | |
| 26. Medical College, Jabalpur .. .. .. | 104 | 45 | 149 |
| 27. M.G.M. Medical College, Indore .. .. | 104 | 46 | 150 |
| 28. G. R. Medical College, Gwalior .. .. | 108 | 42 | 150 |
| 29. Gandhi Medical College, Bhopal .. .. | 110 | 40 | 150 |
| 30. Medical College, Rewa .. .. .. | 54 | 3 | 57 |
| 31. Pandit Jawaharlal Nehru Memorial Medical College, Raipur .. .. .. .. .. | 45 | 15 | 60 |
| Total .. | 525 | 191 | 716 |
| Madras — | | | |
| 32. Madras Medical College, Madras .. .. | 71 | .. | 71 |
| 33. Stanley Medical College, Madras .. .. | 103 | 39 | 142 |
| 34. Kilpauk Medical College, Kilpauk, Madras-10 .. | 56 | 20 | 76 |
| 35. Christian Medical College, Vellore .. .. | 30 | 22 | 52 |
| 36. Madurai Medical College, Madurai .. .. | 101 | 44 | 145 |
| 37. Thanjavur Medical College, Thanjavur .. | 95 | 29 | 124 |
| 38. Medical College, Chingleput .. .. .. | 50 | .. | 50 |
| 39. Medical College, Tirunedvelli .. .. .. | No admission during 1965 | | |
| Total .. | 506 | 154 | 660 |
| Maharashtra— | | | |
| 40. Grant Medical College, Bombay .. .. | 127 | 75 | 202 |
| 41. Seth G.S. Medical College, Parel, Bombay .. | 86 | 74 | 160 |
| 42. Topiwala National Medical College, Bombay .. | 61 | 79 | 140 |
| 43. B. J. Medical College, Poona .. .. .. | 130 | 69 | 199 |
| 44. Medical College, Nagpur .. .. .. | 146 | 55 | 201 |
| 45. Govt. Medical College, Aurangabad .. .. | 89 | 11 | 100 |
| 46. Armed Forces Medical College, Poona .. | 104 | 12 | 116 |
| 47. Medical College, Miraj .. .. .. | 46 | 14 | 60 |
| 48. Medical College, Sholapur .. .. .. | 85 | 15 | 100 |
| 49. Medical College, Sion, Bombay .. .. | 29 | 31 | 60 |
| Total .. | 903 | 435 | 1,338 |
| Mysore— | | | |
| 50. Kasturba Medical College, Manipal .. .. | 197 | 28 | 225 |
| 51. Medical College, Mysore .. .. .. | 169 | 36 | 205 |
| 52. Bangalore Medical College, Bangalore .. .. | 144 | 55 | 199 |
| 53. Karnatak Medical College, Hubli .. .. | 163 | 35 | 198 |
| 54. Medical College, Bellary .. .. .. | 108 | 5 | 113 |
| 55. St. John's Medical College, Bangalore .. .. | 36 | 14 | 50 |
| 56. Medical College, Gulbarga .. .. .. | 106 | 7 | 113 |
| 57. Medical College, Belgaum .. .. .. | 112 | 9 | 121 |
| 58. Medical College, Devangere .. .. .. | 114 | 5 | 119 |
| Total .. | 1,149 | 194 | 1,343 |

## APPENDIX XVI—*contd.*

| Name of the State | Men | Women | Total |
|---|---|---|---|
| Orissa— | | | |
| 59. S.C.B. Medical College, Cuttack .. .. | 175 | 25 | 200 |
| 60. Medical College, Burla (Sambalpur) .. .. | 165 | 35 | 200 |
| 61. Medical College, Berhampur (Cuttack) .. .. | 94 | 8 | 102 |
| Total .. | 434 | 68 | 502 |
| Punjab— | | | |
| 62. Medical College, Amritsar .. .. .. | 126 | 25 | 151 |
| 63. Christian Medical College, Ludhiana .. .. | 25 | 22 | 47 |
| 64. Government Medical College, Patiala .. .. | 116 | 35 | 151 |
| 65. Medical College, Rohtak .. .. .. | 76 | 24 | 100 |
| 66. Dayanand Medical College, Ludhiana .. .. | 36 | 14 | 50 |
| Total .. | 379 | 120 | 499 |
| Rajasthan— | | | |
| 67. S.M.S. Medical College, Jaipur .. .. .. | 143 | 48 | 191 |
| 68. Bikaner Medical College, Bikaner .. .. | 130 | 26 | 156 |
| 69. Medical College, Udaipur .. .. .. | 127 | 24 | 151 |
| 70. Medical College, Ajmer .. .. .. | 52 | 21 | 73 |
| 71. Medical College, Jodhpur .. .. .. | 68 | 7 | 75 |
| Total .. | 520 | 126 | 646 |
| Uttar Pradesh— | | | |
| 72. K.G. Medical College, Lucknow .. .. | 154 | 38 | 192 |
| 73. Medical College, Agra .. .. .. | 99 | 28 | 127 |
| 74. G.S.V.M. Medical College, Kanpur .. .. | 178 | 11 | 189 |
| 75. College of Medical, Sciences Banaras Hindu University, Varanasi .. .. .. .. | 53 | 22 | 75 |
| 76. Moti Lal Nehru Medical College, Allahabad .. | 51 | 13 | 64 |
| 77. Medical College, Muslim University, Aligarh .. | 35 | 15 | 50 |
| Total .. | 570 | 127 | 697 |
| West Bengal— | | | |
| 78. Medical College, Calcutta .. .. .. | 93 | 32 | 125 |
| 79. K.G. Kar Medical College, Balgachia Road, Calcutta | 94 | 30 | 124 |
| 80. Nilratan Sircar Medical College, Calcutta .. | 78 | 47 | 125 |
| 81. Calcutta National Medical Institute, 32, Gorachand Road, Calcutta .. .. .. .. | 137 | 44 | 181 |
| 82. Bankura Sammilani Medical College, Bankura .. | 47 | 3 | 50 |
| Total .. | 449 | 156 | 605 |

## APPENDIX XVI—*concld.*

| Name of the State | Men | Women | Total |
|---|---|---|---|
| **Delhi—** | | | |
| **83. Lady Hardinge Medical College (for women), New Delhi** .. .. .. .. .. | .. | 100 | 100 |
| **84. All India Institute of Medical Sciences, Safdarjang, New Delhi** .. .. .. .. .. | 33 | 17 | 50 |
| **85. Maulana Azad** Medical College, New Delhi .. | 86 | 38 | 124 |
| Total .. | 119 | 155 | 274 |
| **Pondicherry—** | | | |
| **86. Medical** College, Pondicherry .. .. .. | 54 | 11 | 65 |
| **Goa—** | | | |
| **87. Medical** College, Goa .. .. .. | 46 | 19 | 65 |

## STATE-WISE ABSTRACT

| S. No. | Name of the State | No. admitted | | |
|---|---|---|---|---|
| | | Men | Women | Total |
| 1. | **Andhra Pradesh** .. .. .. .. | 740 | 261 | 1,001 |
| 2. | **Assam** .. .. .. .. .. | 218 | 62 | 280 |
| 3. | **Bihar** .. .. .. .. .. | 482 | 109 | 591 |
| 4. | **Gujarat** .. .. .. .. .. | 466 | 175 | 641 |
| 5. | **Jammu & Kashmir** .. .. .. .. | 63 | 34 | 97 |
| 6. | **Kerala** .. .. .. .. .. | 374 | 126 | 500 |
| 7. | **Madhya Pradesh** .. .. .. .. | 525 | 191 | 716 |
| 8. | **Madras** .. .. .. .. .. | 506 | 156 | 660 |
| 9. | **Maharashtra** .. .. .. .. .. | 903 | 435 | 1,338 |
| 10. | **Mysore** .. .. .. .. .. | 1,149 | 194 | 1,343 |
| 11. | **Orissa** .. .. .. .. .. | 434 | 68 | 502 |
| 12. | **Punjab** .. .. .. .. .. | 379 | 120 | 499 |
| 13. | **Rajasthan** .. .. .. .. .. | 520 | 126 | 646 |
| 14. | **Uttar Pradesh** .. .. .. .. | 570 | 127 | 697 |
| 15. | **West Bengal** .. .. .. .. | 449 | 156 | 605 |
| 16. | **Delhi** .. .. .. .. .. | 119 | 155 | 274 |
| 17. | **Pondicherry** .. .. .. .. .. | 54 | 11 | 65 |
| 18. | **Goa** .. .. .. .. .. | 46 | 19 | 65 |
| | GRAND TOTAL .. | 7,997 | 2,523 | 10,520 |

*N.B.*—**For the sake of uniformity,** in the case of Medical Colleges, where admissions are made to **pre-medical course** e.g. Madras, Mysore, Andhra Pradesh, Pondicherry, Assam, West Bengal & **P.W.M.C. Patna, the figures** include number of students promoted to I MBBS or those admitted **directly to I** MBBS.

## APPENDIX XVII

## STATEMENT SHOWING THE NUMBER OF STUDENTS WHO PASSED FINAL MBBS EXAMINATION IN 1965

| Name of the State | Male | Female | Total |
|---|---|---|---|
| **Andhra Pradesh—** | | | |
| 1. Andhra Medical College, Visakhapatnam | 86 | 29 | 115 |
| 2. Guntur Medical College, Guntur | 103 | 32 | 135 |
| 3. Kurnool Medical College, Kurnool | 53 | 12 | 65 |
| 4. Osmania Medical College, Hyderabad | 59 | 40 | 99 |
| 5. Gandhi Medical College, Hyderabad-Dn. | 41 | 21 | 62 |
| 6. Rangaraya Medical College, Kakinada | 67 | 7 | 74 |
| 7. Kakatiya Medical College, Warangal | 17 | 3 | 20 |
| Total | 426 | 144 | 570 |
| **Assam—** | | | |
| 8. Assam Medical College, Dibrugarh | 113 | 21 | 134 |
| 9. Gauhati Medical College, Gauhati | 52 | 2 | 54 |
| 10. Medical College, Silchar | | | |
| Total | 165 | 23 | 188 |
| Bihar— | | | |
| 11. Prince of Wales Medical College, Patna | 122 | 30 | 152 |
| 12. Darbhanga Medical College, Laherisarai | 120 | 28 | 148 |
| 13. Rajinder Medical College, Ranchi | 83 | 22 | 105 |
| Total | 325 | 80 | 405 |
| Gujarat— | | | |
| 14. B. J. Medical College, Ahmedabad | 46 | 25 | 71 |
| 15. Medical College, Baroda | 51 | 13 | 64 |
| 16. M. P. Shah Medical College, Jamnagar | 44 | 13 | 57 |
| Total | 141 | 51 | 192 |
| Jammu and Kashmir— | | | |
| 17. Medical College, Srinagar | 57 | 18 | 75 |
| Kerala— | | | |
| 18. Medical College, Trivandrum | 134 | 61 | 195 |
| 19. Medical College, Calicut | 91 | 38 | 129 |
| 20. Medical College, Kottayam | 11 | 6 | 17 |
| Total | 236 | 105 | 341 |
| Madhya Pradesh— | | | |
| 21. Medical College, Jabalpur | 49 | 38 | 87 |
| 22. M.G.M. Medical College, Indore | 69 | 28 | 97 |
| 23. G. R. Medical College, Gwalior | 75 | 14 | 89 |
| 24. Gandhi Medical College, Bhopal | 45 | 25 | 70 |
| Total | 239 | 105 | 343 |

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## APPENDIX XVII—*contd.*

| Name of the State | Male | Female | Total |
|---|---|---|---|
| **Madras—** | | | |
| 25. Madras Medical College, Madras | 74 | 48 | 122 |
| 26. Stanley Medical College, Madras | 116 | 22 | 138 |
| 27. Kilpauk Medical College, Kilpauk, Madras-10 | 24 | 11 | 35 |
| 28. Christian Medical College, Vellore | 12 | 18 | 30 |
| 29. Madurai Medical College, Madurai | 66 | 31 | 97 |
| 30. Thanjavur Medical College, Thanjavur | 38 | 13 | 51 |
| Total | 330 | 143 | 473 |
| **Maharashtra—** | | | |
| 31. Grant Medical College, Bombay | 102 | 42 | 144 |
| 32. Seth G.S. Medical College, Parel, Bombay | 32 | 22 | 54 |
| 33 Topiwala National Medical College, Bombay | 24 | 27 | 51 |
| 34. B. J. Medical College, Poona | 99 | 41 | 140 |
| 35. Medical College, Nagpur | 115 | 31 | 146 |
| 36. Govt. Medical College, Aurangabad | 48 | 4 | 52 |
| Total | 420 | 167 | 587 |
| **Mysore—** | | | |
| 37. Kasturba Medical College, Manipal | 111 | 11 | 122 |
| 38. Medical College, Mysore | 104 | 18 | 122 |
| 39. Bangalore Medical College, Bangalore | 52 | 21 | 73 |
| 40. Karnatak Medical College, Hubli | 83 | 26 | 109 |
| Total | 350 | 76 | 426 |
| **Orissa—** | | | |
| 41. S.C.B. Medical College, Cuttack | 110 | 40 | 150 |
| 42. Medical College, Burla, Sambalpur | 36 | 8 | 44 |
| Total | 146 | 48 | 194 |
| **Punjab—** | | | |
| 43. Medical College, Amritsar | 104 | 21 | 125 |
| 44. Christian Medical College, Ludhiana | 19 | 18 | 37 |
| 45. Government Medical College, Patiala | 67 | 23 | 90 |
| 46. Medical College, Rohtak | 29 | 4 | 33 |
| Total | 219 | 66 | 285 |
| **Rajasthan—** | | | |
| 47. S.M.S. Medical College, Jaipur | 95 | 29 | 124 |
| 48. Bikaner Medical College, Bikaner | 60 | 11 | 71 |
| Total | 155 | 40 | 195 |
| **Uttar Pradesh—** | | | |
| 49. K.G. Medical College, Lucknow | 104 | 27 | 131 |
| 50. Medical College, Agra | 78 | 22 | 100 |
| 51. G.S.V.M. Medical College, Kanpur | 87 | 29 | 116 |
| 52. College of Medical Sciences, Banaras Hindu University, Varanasi | 22 | 3 | 25 |
| Total | 291 | 81 | 372 |

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## APPENDIX XVII—*concld.*

| Name of the State | Male | Female | Total |
|---|---|---|---|
| West Bengal— | | | |
| 53. Medical College, Calcutta .. .. .. .. | 83 | 28 | 111 |
| 54. Nilratan Sircar Medical College, Calcutta .. | 81 | 27 | 108 |
| 55. R.G. Kar Medical College, Balgachia Road, Calcutta-4 | 86 | 25 | 111 |
| 56. Calcutta National Medical Institute, 32, Gorachand Road, Calcutta .. .. .. .. | 120 | 17 | 137 |
| 57. Bankura Sammilani Medical College, Bankura .. | 28 | 0 | 28 |
| Total .. | 398 | 97 | 495 |
| Delhi— | | | |
| 58. Lady Hardinge Medical College (for women), New Delhi .. .. .. .. .. | .. | 78 | 78 |
| 59. All India Institute of Medical Sciences, Safdarjang, New Delhi .. .. .. .. .. | 38 | 11 | 49 |
| 60. Molana Azad Medical College, New Delhi .. | 69 | 19 | 88 |
| Total .. | 107 | 108 | 215 |
| Pondicherry— | | | |
| 61. Medical College, Pondicherry .. .. .. | 27 | 4 | 31 |

### STATE-WISE ABSTRACT

| Sl. No. | Name of the State | Number passed | | |
|---|---|---|---|---|
| | | Male | Female | Total |
| 1. | Andhra Pradesh .. .. .. .. .. | 426 | 114 | 570 |
| 2. | Assam .. .. .. .. .. | 165 | 23 | 188 |
| 3. | Bihar .. .. .. .. .. | 325 | 80 | 405 |
| 4. | Gujarat .. .. .. .. .. | 141 | 51 | 192 |
| 5. | Jammu & Kashmir .. .. .. .. | 57 | 18 | 75 |
| 6. | Kerala .. .. .. .. .. | 236 | 105 | 341 |
| 7. | Madhya Pradesh .. .. .. .. | 238 | 105 | 343 |
| 8. | Madras .. .. .. .. .. | 330 | 143 | 473 |
| 9. | Maharashtra .. .. .. .. | 420 | 167 | 587 |
| 10. | Orissa .. .. .. .. .. | 146 | 48 | 194 |
| 11. | Rajasthan .. .. .. .. .. | 155 | 40 | 195 |
| 12. | Punjab .. .. .. .. .. | 219 | 66 | 285 |
| 13. | Uttar Pradesh .. .. .. .. | 291 | 81 | 372 |
| 14. | West Bengal .. .. .. .. | 398 | 97 | 495 |
| 15. | Delhi .. .. .. .. .. | 107 | 108 | 215 |
| 16. | Pondicherry .. .. .. .. .. | 27 | 4 | 31 |
| 17. | Mysore .. .. .. .. .. | 350 | 76 | 426 |
| | GRAND TOTAL .. | 4,031 | 1,356 | 5,387 |

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## APPENDIX XVIII

# REQUIREMENTS OF BEDS BY 1971

| | | | |
|---|---|---|---|
| 1. | No. of Medical Colleges | 91 | |
| 2. | No. of beds required in the Medical Colleges at 500 beds in each College | 45,500 | |
| 3. | Present number of beds in Medical Colleges | 67,186 | |
| 4. | Additional requirements of beds in Medical Colleges | Nil | A |
| 5. | No. of districts | 330 | |
| 6. | No. of districts having at least one 200 bedded hospital | 125 | |
| 7. | No. of districts having hospitals of bed strength less than 200 | 205 | |
| 8. | No. of additional beds required at district level at 100 beds per district | 205 × 100 = 20,500 | B |
| 9. | No. of tehsils | 3,000 | |
| 10. | No. of beds required at 50 beds per tehsil | 1,50,000 | |
| 11. | Present number of beds | 68,500 | |
| 12. | Additional beds required at tehsil level | 81,500 | C |
| 13. | No. of Primary Health Centres | 5,000 | |
| 14. | No. of beds at 6 beds per Primary Health Centre | 30,000 | |
| 15. | No. of beds available in Primary Health Centres | Figure not available. | |
| 16. | Total additional number of beds required (B + C) | 1,02,000 | |

17. Recurring cost at Rs. 4,000 per bed per year (34,000 beds to be added each year)—

| Year | Cost in crores |
|---|---|
| 1969 | 13·6 |
| 1970 | 13·6 |
| 1971 | 13·6 |
| Total | 40·8 |

18. Non-recurring cost at Rs. 15,000 per bed per year .. .. Rs. 153·00 crores.

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## APPENDIX XIX

## DISTRICT COVERED BY TEACHING HOSPITALS (MEDICAL COLLEGES) FOR SPECIALISED TREATMENT

| *Medical College* | *District attached* |
|---|---|
| **ANDHRA PRADESH** | |
| 1. Andhra Medical College, Vishakapatnam. | Vishakapatnam Srikulam. |
| 2. Guntoor Medical College, Guntoor. | Guntoor, Nellore & Krishna. |
| 3. Kurnool Medical College, Kurnool. | Kurnool, Mahboobnagar & Cuddapah. |
| 4. Osmania Medical College, Hyderabad. | Hyderabad.<br>Medak.<br>Nalgonda |
| 5. Gandhi Medical College, Hyderabad. | |
| 6. Rangaraya Medical College, Kakinada. | East Godavari and West Godavari. |
| 7. Kakatiya Medical College, Warangal. | Karimnagar, Warrangal & Khammam. |
| 8. S.V. Medical College, Tirupati, Distt. Chittoor. | Chittoor & Anantapur. |
| **ASSAM** | |
| 1. Assam Medical College, Dibrugarh. | Sibsagar & Lakhimpur. |
| 2. Gauhati Medical College, Gauhati. | Kamrup, Darring & Goalpara. |
| 3. Medical College, Silchar. | Mizo Hill, United Miksi & Nosk Cachar Hills. |
| **BIHAR** | |
| 1. Prince of Wales Medical College, Patna. | Patna, Shahbad & Gaya. |
| 2. Darbhanga Medical College, Laherisarai. | Darbhanga, Saharas & Muzzafarpur. |
| 3. Rajendra Medical College, Ranchi. | Ranchi, Palaman & Hazaribagh. |
| 4. Medical College, Damodar Road, Sakshi, Jamshedpur. | Sengbhum, Hazaribagh. |

## APPENDIX XIX—*contd.*

| *Medical College* | *District attached* |
|---|---|
| GUJARAT | |
| 1. B.J. Medical College, Ahmedabad. | Ahmedabad, Surrendra Nagar & Kaira. |
| 2. Municipal Medical College, Ahmedabad. | |
| 3. M.P. Shah Medical College, Jamnagar. | Jamnagar, Rajkot & Junagarh. |
| 4. Medical College, Baroda. | Baroda.<br>Panchmahal. |
| 5. Medical College, Surat. | Surat, Dangs & Broach. |
| JAMMU & KASHMIR | |
| 1. Medical College, Srinagar. | Srinagar, Anantnag & Baramula. |
| KERALA | |
| 1. Medical College, Trivandrum. | Trivandrum & Kanya Kumari. |
| 2. Medical College, Calicut. | Kozhikode, Cannanore & Palghat. |
| 3. Medical College, Kottayam. | Kottayam, Trichur & Ernakulam. |
| 4. Medical College, Alleppey. | Alleppey & Quilon. |
| MADHYA PRADESH | |
| 1. Medical College, Jabalpur. | Jabalpur, Damoh & Panna. |
| 2. M.G.M. Medical College, Indore. | Indore, Ujjain, Dhar & Dewas. |
| 3. G.R. Medical College, Gwalior. | Gwalior, Morina, Datia & Bhind Shivpuri. |
| 4. Gandhi Medical College, Bhopal. | Sehore, Rajgarh, Shajapur & Raisen. |
| 5. Medical College, Rewa. | Rewa, Satna & Sidhi. |
| 6. Pandit Jawaharlal Nehru Memorial Medical College, Raipur. | Raipur, Durg, Bilaspur and Bastar. |

## APPENDIX XIX—*contd.*

| *Medical College* | *District attached* |
|---|---|
| **MADRAS** | |
| 1. Madras Medical College, Madras. | Arcot, Chingleput & South Arcot. |
| 2. Stanley Medical College, Madras. | |
| 3. Kilpauk Medical College, Kilpauk, Madras-10. | |
| 4. Medical College, Chingleput. | |
| 5. Christian Medical College, Vellore. | North Arcot & Salem. |
| 6. Madurai Medical College, Madurai. | Madurai & Ramanathapuram. |
| 7. Thanjavur Medical College, Thanjavur. | Thanjavur and Tiruchirapalli. |
| 8. Medical College, Tirunelvele. | Tirunelvele. |
| 9. Medical College, Coimbatore. | Coimbatore & Nilgiris. |
| **MAHARASHTRA** | |
| 1. Grant Medical College, Bombay. | Greater Bombay, Thana, Kolaba & Nasik. |
| 2. Seth G. S. Medical College, Parel, Bombay. | |
| 3. Topiwala National Medical College, Bombay. | |
| 4. Medical College, Sion, Bombay. | |
| 5. B.J. Medical College, Poona. | Poona, Satara & Ahmednagar. |
| 6. Armed Forces Medical College, Poona. | |
| 7. Medical College, Nagpur. | Nagpur, Wardah, Bhandara & Amravati. |
| 8. Government Medical College, Aurangabad. | Aurangabad, Ahmednagar, Bhir & Parbhani. |
| 9. Medical College, Miraj. | Sangli, Kohlapur & Ratnagiri. |
| 10. Medical College, Sholapur. | Sholapur & Usmanabad. |

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APPENDIX XIX—*contd.*

| *Medical College* | *District attached* |
|---|---|
| **MYSORE** | |
| 1. Kasturba Medical College, Manipal. | South Kanara, Shimoga & Chikmagalur. |
| 2. Medical College, Mysore. | Mysore, Mandia & Coorg. |
| 3. Bangalore Medical College, Bangalore. | Bangalore, Timkur and Kolar. |
| 4. St. John's Medical College, Bangalore. | |
| 5. Karnatak Medical College, Hubli. | Dharwar, North Kanara |
| 6. Medical College, Bellary. | Bellary, Raiphur. |
| 7. Medical College, Gulbarga. | Bidar and Gulbarga. |
| 8. Medical College, Belgaum. | Belgaum and Bijapur. |
| 9. Medical College, Davangere. | Chitradurga. |
| **ORISSA** | |
| 1. S.C.B. Medical College, Cuttack. | Cuttack, Puri, Balasore & Shenkanal. |
| 2. Medical College, Berhampur (Cuttack). | |
| 3. Medical College, Burla (Sambalpur). | Sambalpur, Sundargarh & Bolangir. |
| PUNJAB | |
| 1. Medical College, Amritsar. | Amritsar, Ferozepur, Gurdaspur & Kapurthala. |
| 2. Christian Medical College, Ludhiana. | Ludhiana, Jullundur Hoshiarpur. |
| 3. Dayanand Medical College, Ludhiana. | |
| 4. Government Medical College, Patiala. | Patiala, Bhatinda & Sangrur. |
| HARYANA | |
| 1. Medical College, Rohtak. | Rohtak, Hissar & Karnal. |

| *Medical College* | *District attached* |
|---|---|
| HIMACHAL PRADESH | |
| 1. Himachal Govt. Medical College, Snowdon, Simla. | Simla, Mahasu, Bilaspur & Sirmur. |
| RAJASTHAN | |
| 1. S.M.S. Medical College, Jaipur. | Jaipur, Sikar, Alwar & Sawaimadhopur. |
| 2. Bikaner Medical College, Bikaner. | Bikaner, Churu and Ganganagar. |
| 3. Medical College, Udaipur. | Udaipur, Bhilwara, Sirohi and Chittoor. |
| 4. Medical College, Ajmer. | Ajmer, Tonk and Bundi. |
| 5. Medical College, Jodhpur. | Jodhpur, Barmer, Pali and Nagaur. |
| WEST BENGAL | |
| 1. Medical College, Calcutta. | Calcutta, 24-Parganas, Howrah and Hooghly. |
| 2. R. G. Kar Medical College, Balgadia Road, Calcutta. | |
| 3. N.R.S. Medical College, Calcutta. | |
| 4. Calcutta National Medical Institute, Gorachand Road, Calcutta. | |
| 5. Bankura Sammilani Medical College, Bankura. | Bankura, Burdwan and Purulia. |
| UTTAR PRADESH | |
| 1. K. G. Medical College, Lucknow. | Lucknow, Sitapur, Hardoi and Barabanki. |
| 2. S. N. Medical College, Agra. | Agra, Mathura and Etah. |
| 3. G.S.V.M. Medical College, Kanpur. | Etawah, Kanpur and Unnao. |
| 4. Medical College, Varanasi. | Varanasi, Mirzapur, Jaunpur and Ghazipur. |
| 5. Motilal Nehru Medical College, Allahabad. | Allahabad, Fatehpur, Partapgarh and Raibareilly. |
| 6. Medical College, Aligarh. | Aligarh, Budaun and Bullandshahr. |
| 7. Medical College, Meerut. | Meerut and Muzzafarnagar. |

APPENDIX XIX—*concld.*

| *Medical College* | *District attached* |
|---|---|
| **DELHI** | |
| 1. Lady Hardinge Medical College (for women), New Delhi. | Delhi Territory. |
| 2. All India Institute of Medical Sciences, New Delhi. | |
| 3. Maulana Azad Medical College, New Delhi. | |
| **PONDICHERRY** | |
| 1. Medical College, Pondicherry. | Pondicherry. |
| **GOA** | |
| 1. Medical College, Goa. | Goa. |

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## APPENDIX XXI

## NUMBER OF BLOCKS, PRIMARY HEALTH CENTRES, POSITION OF DOCTORS AND OF UNICEF ASSISTANCE FOR THE QUARTER ENDING 30-9-1967.

| Sr. No. | Name of the State | No. of blocks | No. of Primary Health Centres | | | No. of Sub-Centres | |
|---|---|---|---|---|---|---|---|
| | | | Functioning | Without doctors | Assisted by UNICEF | Functioning | Assisted by UNICEF |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| 1 | Andhra Pradesh .. | 321 | 405 | 12 | 265 | 1,122 | 818 |
| 2 | Assam .. .. | 162 | 77 | 4 | 38 | 279 | 81 |
| 3 | Bihar .. .. | 587 | 587+37<br>(a) | 42 | 69 | 3,523 | 158 |
| 4 | Gujarat .. .. | 250 | 244 | 39 | 194 | 1,471 | 462 |
| 5 | Haryana .. | 82 | 89 | 3 | 74 | 473 | 222 |
| 6 | Jammu & Kashmir | 69 | 57 | Nil | 26 | 86 | 48 |
| 7 | Kerala .. .. | 143 | 163 | Nil | 109 | 1,584 | 309 |
| 8 | Madhya Pradesh (aa) | 452 | 414 | 30 | 244 | 1,220 | 615 |
| 9 | Madras .. .. | 374 | 251 | 9 | 161 | 1,302 | 500 |
| 10 | Maharashtra .. | 313 | 378+51 (a) | 12 | 126 | 1,563 | 688 |
| 11 | Mysore .. .. | 268 | 263+180 (a) | 29 | 88 | 1,964 | 237 |
| 12 | Nagaland .. | 17 | 3 | 3 | .. | .. | .. |
| 13 | Orissa .. .. | 314 | 296 | 26 | 113 | 848 | 244 |
| 14 | Punjab .. .. | 116 | 122 | 9 | 106 | 638 | 318 |
| 15 | Rajasthan (aa) .. | 232 | 231 | 88 | 73 | 854 | 204 |
| 16 | Uttar Pradesh (aa) | 875 | 651 | 275 | 132 | 2,277 | 279 |
| 17 | West Bengal .. | 335 | 218 | Nil | 108 | 532 | 112 |
| | *Union Territories* | | | | | | |
| 18 | Delhi .. .. | 5 | 5 | Nil | 7 | 15 | 20 |
| 19 | Himachal Pradesh | 69* | 72 | 30 | 40 | 111 | 63 |
| 20 | Manipur .. .. | 14 | 12 | 2 | 6 | 37 | 21 |
| 21 | Tripura .. .. | 17 | 22 | Nil | 6 | 22 | 11 |
| 22 | N.E.F.A. .. | 41 | 83+22 (a) | .. | .. | Nil | .. |
| 23 | Pondicherry .. | 4 | 12 | .. | .. | .. | .. |
| 24 | A & N Islands .. | 5 | Nil | Nil | Nil | 1 | Nil |
| 25 | L.M. & A. Islands(aa) | 7 | 1 | .. | .. | .. | .. |
| 26 | Goa, Diu, Daman .. | 12 | 19† | .. | .. | .. | .. |
| 27 | Dadra, Nagar Haveli | 2<br>(aa) | 2 | .. | .. | 5 | .. |
| | | 5,079 | 4,683<br>+290<br>(a) | 614 | 1,985 | 19,927 | 5,410 |

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*Figures relate to 31-3-1967.

† Of old pattern.

(a) State pattern.

(aa) Figures relate to 30-6-67.

## APPENDIX XXII

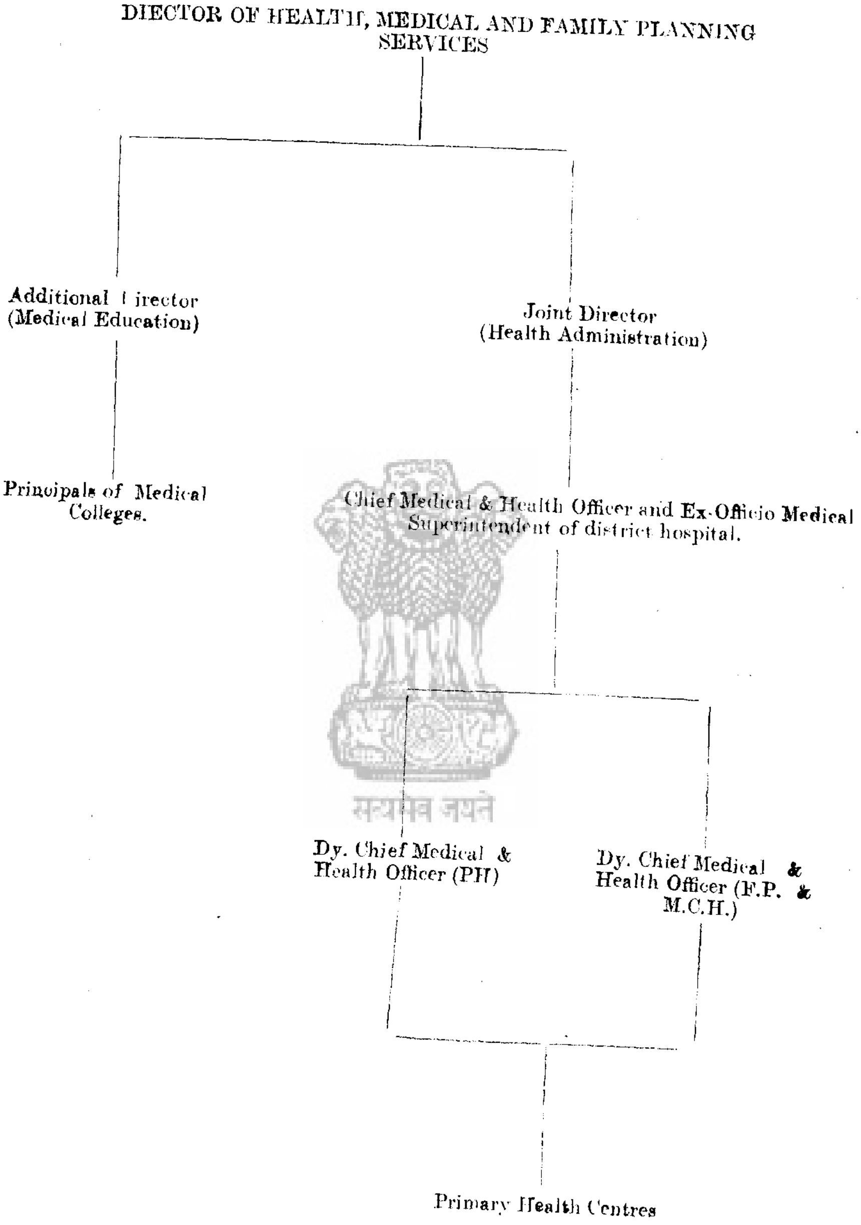
# NUMBER OF INSTITUTIONS AND BED CAPACITY FOR TREATMENT OF CERTAIN DISEASES IN VARIOUS STATES OF INDIA DURING 1965.

| Name of the States | Cancer | | Cardiac | | Eye | | Leprosy | | Mental | | Antirabic | | Tuberculosis | | V.D. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | Beds | No. | Beds | No. | Beds | No. | Beds | No. | Beds | No. | Beds | No. | Beds | No. | Beds |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 1. Andhra Pradesh | 5 | 238 | 1 | 30 | 17 | 448 | 45 | + | 6 | 995 | 22 | .. | 27 | 1.377 | 20 | + |
| 2. Assam .. | 4 | 57 | 3 | 400 | 5 | 125 | 293 | 1,054 | 1 | 794 | 74 | .. | 33 | 950 | 5 | 16 |
| 3. Bihar. .. | 2 | 49 | 1 | 30 | 18 | 155 | 32 | 1,054 | 2 | 1,883 | 60 | .. | 67 | 312 | 9 | 74 |
| 4. Gujarat .. | 6 | 20 | 3 | 38 | 14 | 366 | 5 | 745 | 6 | 556 | 169 | .. | 23 | 1.189 | 5 | 20 |
| 5. Jammu & Kashmir | .. | .. | .. | .. | 2 | 67 | 21 | 210 | 2 | 150 | 16 | .. | 12 | 690 | 10 | .. |
| 6. Kerala .. | 4 | 164 | 1 | 15 | 9 | 330 | 93 | 2.164 | 3 | 716 | 458 | .. | 45 | 1.750 | 15 | 87 |
| 7. Madhya Pradesh | 8 | 10 | 4 | + | 14 | 538 | 18 | 2.127 | 2 | 290 | 67 | .. | 46 | 1.742 | 18 | .. |
| 8. Madras .. | 6 | 260 | 12 | 342 | 24 | 999 | 45 | 2,618 | 8 | 1.859 | + | .. | 53 | 2.877 | 63 | 150 |
| 9. Maharashtra .. | 16 | 208 | 23 | + | 42 | 897 | 24 | 3.894 | 15 | 5,712 | 123 | .. | 58 | 5,227 | 10 | 119 |
| 10. Mysore .. | 5 | + | 5 | + | 23 | 442 | 5 | 542 | 2 | 1,150 | 30 | .. | 40 | 2,181 | 18 | 55 |
| 11. Orissa .. | 2 | 100 | 1 | + | 3 | 73 | 100 | 1,122 | 2 | 75 | 48 | .. | 25 | 531 | 11 | + |
| 12. Punjab .. | 5 | + | 7 | 96 | 26 | 852 | 42 | 10,095 | 1 | 651 | 74 | .. | 26 | 1.199 | 5 | 604 |
| 13. Rajasthan .. | 4 | + | 2 | 27 | 20 | 739 | 2 | 95 | 2 | 280 | 84 | .. | 32 | 1,316 | 4 | 40 |
| 14. Uttar Pradesh .. | 5 | 136 | 2 | + | 53 | 3,231 | 39 | 1,753 | 6 | 1,512 | 71 | .. | 104 | 2.283 | 15 | 8 |
| 15. West Bengal .. | 4 | 181 | 10 | 79 | 35 | 603 | + | + | 8 | 540 | + | + | 113 | 818 | 59 | 111 |
| UNION TERRITORIES | | | | | | | | | | | | | | | | |
| 1. A. & N. Islands | .. | .. | 2 | + | 2 | + | 1 | 10 | 2 | 10 | .. | .. | 3 | 50 | 2 | + |
| 2. Delhi .. .. | 4 | 75 | 8 | 104 | 12 | 432 | 3 | 165 | 4 | 22 | 20 | .. | 7 | 1,113 | 6 | 40 |
| 3. Goa, Daman & Diu | .. | .. | .. | .. | 6 | 27 | 2 | 200 | 1 | 250 | 20 | .. | 4 | 203 | 1 | .. |
| 4. Himachal Pradesh | 1 | + | .. | .. | .. | .. | 44 | 142 | .. | .. | 27 | .. | 8 | 325 | 42 | .. |
| 5. L.M. & A. Islands | .. | .. | .. | .. | .. | .. | 3 | + | .. | .. | .. | .. | .. | .. | .. | .. |
| 6. Manipur .. | .. | .. | .. | .. | 1 | 20 | 3 | 115 | .. | .. | 1 | .. | 3 | 100 | 1 | .. |
| 7. Nagaland .. | .. | .. | .. | .. | .. | .. | 2 | 116 | .. | .. | 5 | .. | 3 | 91 | 1 | 10 |
| 8. Pondicherry .. | 1 | + | 1 | 10 | 2 | 26 | 3 | 126 | 1 | .. | 4 | .. | 4 | 122 | 2 | 12 |
| 9. Tripura .. | .. | .. | .. | .. | 2 | + | 43 | .. | .. | .. | 27 | .. | 2 | 50 | 1 | .. |
| 10. N.E.F.A. .. | .. | .. | .. | .. | 1 | + | 4 | .. | .. | .. | .. | .. | 14 | + | .. | .. |
| Total .. | 82 | 1,498 | 86 | 1,171 | 331 | 10,370 | 972 | 19,347 | 74 | 17.445 | 1,400 | .. | 753 | 26,406 | 323 | 1,346 |

**NOTE**—**Institution** includes Hospitals, Home, Clinics, Centres, Sanatoria and Dispensaries etc.

## APPENDIX XXIII

# ADMINISTRATIVE SET UP OF FAMILY PLANNING SERVICES


DIECTOR OF HEALTH, MEDICAL AND FAMILY PLANNING SERVICES
Additional Director (Medical Education)
Joint Director (Health Administration)
Principals of Medical Colleges.
Chief Medical & Health Officer and Ex-Officio Medical Superintendent of district hospital.
Dy. Chief Medical & Health Officer (PH)
Dy. Chief Medical & Health Officer (F.P. & M.C.H.)
Primary Health Centres

## Appendix XXIV

## FURNITURE FOR VARIOUS SECTIONS OF A HOSPITAL OF 10/25/50 BEDS

### Table 1

| Article | Quantity | | |
|---|---|---|---|
| | for 10 beds | for 25 beds | for 50 beds |
| 1 | 2 | 3 | 4 |
| *Out-patient (Medical Officers' Consultation Room)* | | | |
| Office table with drawers | 1 | 2 | 4 |
| Officers chairs with arms | 3 | 6 | 12 |
| Side table | 1 | 2 | 2 |
| Examination table (Metal-sheeting) | 1 | 2 | 2 |
| Towel rack | 1 | 2 | 4 |
| Stools wooden | 2 | 4 | 8 |
| Screen | 1 | 2 | 4 |
| Racks wooden | 2 | 4 | 8 |
| Trays wooden | 2 | 4 | 8 |
| Wash basin stand | 1 | 2 | 4 |
| Wash basin | 1 | 2 | 4 |
| Soap dish | 1 | 2 | 4 |
| Bowl E.I. 14″ | 2 | 4 | 8 |
| Jug | 1 | 2 | 4 |
| Cupboard | 1 | 2 | 4 |
| Coat stand | 1 | 2 | 4 |
| Notice board | 1 | 2 | 4 |
| Almirah | 1 | 2 | 4 |
| Foot stool | 1 | 2 | 4 |
| Adjustable table lamp | 1 | 2 | 4 |
| Wastepaper-basket | 1 | 2 | 4 |
| *Dressing Room* | | | |
| Dressing trolley | 1 | 2 | 4 |
| Table dressing | 1 | 2 | 2 |
| Stools | 2 | 4 | 8 |
| Bench | 1 | 2 | 4 |
| Cupboards or almirahs (large) | 1 | 2 | 4 |
| Screen folding | 1 | 2 | 4 |
| Wash basin stand | 1 | 2 | 2 |
| Wash basin | 1 | 2 | 3 |
| Soap dish | 1 | 2 | 3 |
| Towel rack | 1 | 2 | 4 |
| Jug E.I. | 1 | 2 | 4 |
| Foot operated self closing bin | 1 | 2 | 4 |
| E.I. bowls | 2 | 4 | 8 |
| E.I. trays | 2 | 4 | 8 |
| Kidney trays | 4 | 8 | 16 |
| E.I. buckets with lids | 2 | 4 | 8 |
| Drum for water (with lid and tap) | 1 | 2 | 4 |
| Urine glass | 6 | 10 | 20 |
| Pail with cover | 1 | 2 | 4 |
| Foot stool | 1 | 2 | 4 |
| *Dispensary* | | | |
| Dispensing table with line top and counter | 1 | 1 | 3 |
| Almirah large | 3 | 3 | 4 |
| Stools | 2 | 4 | 8 |
| Drums for water (with lid and tap) | 1 | 2 | 4 |

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## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| Wash hand stand | 1 | 2 | 4 |
| Racks | 2 | 4 | 8 |
| Foot operated self closing bin | 1 | 2 | 4 |
| *Operation Theatre* | | | |
| Operation table | 1 | 1 | 1 |
| Wash basin stand for 2 basins | 1 | 2 | 4 |
| Wash basins | 6 | 12 | 20 |
| Soap dish | 2 | 4 | 8 |
| Towel rack | 2 | 3 | 4 |
| E.I. buckets with lids | 4 | 4 | 8 |
| Stools | 4 | 4 | 6 |
| Dressing trolley | 3 | 3 | 4 |
| Stool-revolving metal | 1 | 2 | 3 |
| Infusion stand | 1 | 2 | 2 |
| Irene car | 1 | 1 | 1 |
| *Minor Surgery Room* | | | |
| Wall mirror | 1 | 2 | 3 |
| Table | 1 | 2 | 4 |
| Wash hand stand with basin, jug, soap dish and towel rail | 1 | 2 | 4 |
| *M. C. H. Section* | | | |
| Office table with drawers | 2 | 2 | 2 |
| Chairs with arms | 4 | 4 | 6 |
| Water container with a tap on a stand | 1 | 2 | 4 |
| Foot stool | 1 | 2 | 4 |
| Side Table | 2 | 4 | 8 |
| Stool | 4 | 8 | 12 |
| Examination table | 1 | 2 | 3 |
| Jug | 1 | 2 | 4 |
| Wash basin stand | 1 | 2 | 3 |
| Wash basin | 1 | 2 | 4 |
| Soap dish | 1 | 2 | 3 |
| Towel rack | 1 | 2 | 4 |
| Bowl, E.I. (different sizes) | 12 | 24 | 36 |
| Almirah | 1 | 1 | 2 |
| Wastepaper-basket | 1 | 2 | 4 |
| Small table | 1 | 1 | 2 |
| Benches | 2 | 2 | 4 |
| Folding screen | 1 | 2 | 4 |
| Filing cabinet | 1 | 2 | 4 |
| *Labour Room* | | | |
| Table obstetric with leg fittings | 1 | 2 | 4 |
| Dressing trolley | 1 | 2 | 4 |
| Table dressing | 2 | 2 | 4 |
| E.I. buckets with lids | 4 | 8 | 16 |
| Tub for washing body | 1 | 2 | 4 |
| Towel rack | 1 | 2 | 4 |
| Kidney trays | 2 | 4 | 8 |
| Foot step | 1 | 2 | 4 |
| Bed pans | 4 | 8 | 16 |
| Stool | 1 | 2 | 4 |
| Urine glass | 6 | 12 | 24 |
| Drum for water (with lid and tap) | 1 | 2 | 4 |
| Enema can with tubing complete | 2 | 4 | 8 |
| Screen | 2 | 4 | 8 |
| Side table | 1 | 2 | 4 |
| Wash hand stand complete with basin jug, soap dish and towel rail | 1 | 2 | 4 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| *Wards including Nurses Duty Room* | | | |
| Beds iron with mosquito net stand | 10 | 25 | 50 |
| Bed-side lockers | 4 | 10 | 20 |
| Almirah big | 3 | 3 | 6 |
| Office table | 1 | 2 | 4 |
| Chairs with arms | 2 | 4 | 8 |
| Side table | 1 | 2 | 4 |
| Cradle bed | 1 | 2 | 4 |
| Towel rack | 1 | 2 | 4 |
| Wash basin stand | 1 | 2 | 4 |
| Wash basin | 1 | 2 | 4 |
| Soap dish | 1 | 2 | 4 |
| Table dressing | 1 | 2 | 4 |
| Dressing trolley | 2 | 2 | 4 |
| Chart holders | 10 | 25 | 50 |
| Bed pans | 12 | 24 | 50 |
| Urine pots | 12 | 24 | 50 |
| E.I. bowls | 12 | 24 | 50 |
| E.I. buckets with lids | 6 | 12 | 24 |
| E.I. trays | 6 | 12 | 24 |
| Kidney trays | 6 | 12 | 24 |
| Sputum mugs | 12 | 24 | 50 |
| Feeding cups | 12 | 24 | 50 |
| Drum for water (with lid and tap) | 2 | 4 | 6 |
| Ordinary buckets (G.I.) | 6 | 12 | 24 |
| Stool | 2 | 4 | 6 |
| Stretcher | 3 | 6 | 9 |
| Fold screens | 2 | 4 | 8 |
| Screens wooden | 4 | 8 | 12 |
| Hamam for heating water | 1 | 2 | 8 |
| Back rest | 2 | 4 | 8 |
| Wheel chair | 1 | 2 | 4 |
| Soiled linen box | 1 | 2 | 4 |
| Wall mirror | 1 | 2 | 4 |
| Easy chair | 1 | 1 | 1 |
| *Office* | | | |
| Office table with drawers | 2 | 4 | 8 |
| Chairs with arms | 2 | 4 | 8 |
| Stool | 2 | 4 | 8 |
| Trays | 4 | 8 | 16 |
| Racks | 4 | 8 | 16 |
| Almirah | 3 | 3 | 6 |
| Wastepaper-basket | 4 | 8 | 16 |
| Stationery | .. | .. | .. |
| Notice board (big) | 1 | 2 | 4 |
| *Sterilisation Room* | | | |
| Cupboards | 2 | 4 | 8 |
| Low table 4′ × 2′ × 1½′ | 1 | 2 | 4 |
| *Miscellaneous* | | | |
| Locks | .. | .. | .. |
| Hurricane lamp (Where not electrified) | 12 | 24 | 48 |
| Petromax (Where not electrified) | 2 | 4 | 8 |
| *Storeroom* | | | |
| Almirahs (big) | 4 | 4 | 8 |
| Racks (big) | 4 | 4 | 8 |
| Table with drawers | 1 | 2 | 4 |
| Chair | 1 | 2 | 4 |

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## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| *Waiting Room* | | | |
| Bench | 4 | 4 | 8 |
| Noticeboard | 1 | 2 | 2 |
| Black board with a stand | 1 | 2 | 4 |
| Frames for pictures/posters | 6 | 12 | 12 |
| Drinking water stand | 1 | 2 | 4 |
| Spittoons | 1 | 2 | 4 |
| Board in local language | 1 | 1 | 1 |
| *Furniture for Laboratory* | | | |
| Laboratory table with wash basin fixed and towel rail | 1 | 2 | 4 |
| Side rack | 2 | 4 | 8 |
| Laboratory stool (high) | 1 | 2 | 4 |
| Ordinary stool | 1 | 2 | 4 |
| Soap case | 1 | 2 | 4 |
| Cupboard | 1 | 2 | 4 |
| Wash basin | 1 | 2 | 4 |
| Refrigerator | 1 | 2 | 2 |
| Wastepaper-basket | 1 | 2 | 4 |
| *Registrar* | | | |
| Table with drawer | 1 | 1 | 1 |
| Chair | 2 | 3 | 3 |
| Side rack | 1 | 1 | 2 |
| Cabinet | 1 | 1 | 2 |

### TABLE 2

## A—MEDICAL EQUIPMENT FOR VARIOUS SECTIONS OF A HOSPITAL OF 10/25/50 BEDS

| Article | Quantity | | |
|---|---|---|---|
| | for 10 beds | for 25 beds | for 50 beds |
| 1 | 2 | 3 | 4 |
| *General Instruments and Appliances* | | | |
| Apparatus saline drip complete | 2 | 4 | 8 |
| Apparatus oxygen B.L.B. pattern, nasal mask, flowmeter with pressure gauge and tubing | 1 | 2 | 2 |
| Apparatus oxygen cylinder 40 cu. ft. with trolly | 1 | 2 | 4 |
| Catheter urethral male metal all sizes, each | 2 | 4 | 8 |
| Catheter urethral female metal all sizes, each | 2 | 4 | 8 |
| Catheter I.R., all sizes, each | 2 | 4 | 8 |
| Clip towel | 12 | 24 | 50 |
| Fork tunning | 1 | 1 | 1 |
| Forceps artery (Spencer Wells) 5″ | 3 | 6 | 8 |
| Forceps artery (Kotcher) | 6 | 12 | 24 |
| Forceps dissecting plain 5″ | 2 | 4 | 8 |
| Forceps Mosquito | 2 | 4 | 6 |
| Forceps sinus 7″ | 1 | 1 | 2 |
| Forceps dissecting toothed | 6 | 12 | 24 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| Forceps steriliser (Cheatle) | 2 | 4 | 8 |
| Forceps tissue | 4 | 8 | 16 |
| Forceps steriliser (Moorfield pattern) | 1 | 2 | 4 |
| Forceps dental universal | 1 | 1 | 2 |
| Gloves operation rough, all sizes, each, pair | 1 | 6 | 12 |
| Forceps tongue | 1 | 2 | 4 |
| Knife, B.P. handle | 2 | 4 | 6 |
| Knife, B.P. blade, all sizes, each pkt. of 6 | 2 | 4 | 8 |
| Head light Winchester | 1 | 1 | 2 |
| Needle exploring 1·4 mm. diam. | 1 | 2 | 4 |
| Needle Anuerysm | 2 | 4 | 8 |
| Needle Gordhs with attachments for transfusion drip, spare rubber diaphragm | AR | AR | AR. |
| Needle fascie | 2 | 4 | 8 |
| Needle hypodermic | 18 | 24 | 48 |
| Needle lumber puncture | 4 | 8 | 12 |
| Needle hypodermic record 1½" long "26 B.W.G." | 8 | 12 | 24 |
| Mask (Schimmelbush) for anaesthesia | 1 | 1 | 2 |
| Needle serum | 12 | 24 | 48 |
| Needle Spinal | 2 | 4 | 8 |
| Needle, suture, cutting half circle triangular pointed, all sizes, each, packet of 6 | 1 | 2 | 4 |
| Needle, suture, cutting straight, triangular pointed, all sizes each, packet of 6 | 1 | 2 | 4 |
| Hook blunt double | 2 | 4 | 8 |
| Mouth gag (Sydenham) adult, and children's size, each | 1 | 2 | 4 |
| Needle holder | 2 | 4 | 8 |
| Percussor (Babinski) | 1 | 1 | 1 |
| Prove silver 10" malleable | 1 | 2 | 4 |
| Razor safety with 10 blades | 6 | 6 | 12 |
| Scissors, shop 7" | 2 | 4 | 8 |
| Scissors straight both points blunt 5" | 2 | 4 | 8 |
| Scissors straight both points Sharp 5" | 1 | 4 | 8 |
| Scissors curved surgical | 2 | 4 | 8 |
| Spyhgmomanometer complete | 1 | 1 | 1 |
| Scissors straight (Mayos) | 4 | 8 | 16 |
| Spirit lamp nickel plated 2½ oz. | 2 | 4 | 8 |
| Spinal and local anaesthetic outfit | 1 | 2 | 4 |
| Steriliser Steam portable complete | 1 | 1 | 1 |
| Steriliser steam high pressure drum deep for size 9½" × 11¼" | 2 | 2 | 4 |
| Steriliser, steam, high pressure drum shallow | 2 | 2 | 4 |
| Steriliser syringe | 2 | 4 | 8 |
| Stethoscope | 1 | 1 | 2 |
| Steriliser for surgical instruments 17" × 9¼" × 4" electric, 230 volts, 50 cycles for AC mains | 1 | 1 | 1 |
| Syringe all glass 2 c.c. | 6 | 6 | 12 |
| Syringe hypodermic 2 c.c. | 6 | 6 | 12 |
| Syringe 5 c.c. | 3 | 6 | 6 |
| Syringe serum 10 c.c. | 8 | 6 | 6 |
| Syringe serum 10 cc with accentric nozzle | 3 | 8 | 3 |
| Syringe serum 20cc | 1 | 2 | 4 |
| Syringe serum 20cc with stopcock 3 way | 1 | 1 | 2 |
| Syringe 50 cc | 1 | 2 | 4 |
| Syringe wound | 1 | 2 | 4 |
| Scalpel 2" | 1 | 4 | 8 |
| Scale adult with height stand | 1 | 1 | 1 |
| Suture silk | 1 | 1 | 1 |
| Tape measure linen 5 feet | 1 | 1 | 1 |
| Tourniquet (Samway) complete | 1 | 2 | 4 |
| Trocar and canula | 1 | 2 | 4 |
| Tube duodenal (Ryle) | 2 | 4 | 4 |
| Auriscope, electric, complete | 1 | 1 | 1 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| *E.N.T. Instruments & Appliances* | | | |
| Depressor tongue (Lack) large & small, each | 2 | 4 | 8 |
| Torch (battery) | 1 | 2 | 4 |
| Syringe, ear, metal | 1 | 2 | 4 |
| Nasal speculum | 1 | 2 | 4 |
| *Eye Instruments & Appliances* | | | |
| Dropper eye | 2 | 6 | 12 |
| Ophthalmoscope | 1 | 1 | 1 |
| Rod, ointment, glass | 6 | 6 | 6 |
| Lens magnifying | 1 | 1 | 2 |
| Shades, eye, single, green latha cloth | 6 | 6 | 6 |
| Shades, eye, double, green latha cloth | 6 | 6 | 6 |
| Spud eye | 2 | 4 | 8 |
| Test, type, distant vision, set of four | 1 | 1 | 1 |
| Test, type, distant vision, 'E' chart for illiterates (Bishpo Harman's) | 1 | 1 | 1 |
| Undine glass 4 ozs. | 1 | 2 | 2 |
| *Fracture and Orthopaedic Equipment* | | | |
| Splinting, wire (Cramer) all sizes, each | 6 | 6 | 6 |
| Splint Femur (Bohler) 4 pulley with fleming detachable and piece | 1 | 1 | 2 |
| Splint Gooch | 1 | 2 | 4 |
| Splint, knee, (Thomas) all sizes, each | 1 | 2 | 4 |
| Bed rest | 2 | 4 | 8 |
| Stick walking | 2 | 4 | 8 |
| Pins safety assorted, doz. | 15 | 30 | 60 |
| *Nursing Appliances* | | | |
| Applicator, wool metal, complete | 1 | 2 | 4 |
| Bag, ice, head, I.R. 7½″ | 1 | 2 | 4 |
| Bag sand empty, all sizes, each | 4 | 4 | 8 |
| Bottle hot water I.R. 12″ × 8″ with 2 spare washers | 10 | 10 | 20 |
| Bowl E.I. all sizes, each | 4 | 4 | 6 |
| Box dressing | 1 | 2 | 4 |
| Cup feeding E.I. | 4 | 8 | 12 |
| Finger, stalls, box of 12 | 1 | 1 | 2 |
| Inhaler (Nelson) 1¼ pint size complete | 2 | 2 | 2 |
| Jar E.I. circular with cover, all sizes, each | 2 | 2 | 4 |
| Jug measure E.I. graduated, all sizes, each | 2 | 2 | 4 |
| Irrigator 4 pint with wound pipe and clip complete | 2 | 4 | 4 |
| Mattress (Dunlopillo) latticed 6′ × 3′ × 4′ covered | 10 | 25 | 50 |
| Mirror glass | 6 | 12 | 24 |
| Measure metal double ½ oz. and 1 oz. | 2 | 2 | 2 |
| Ounce glass, all sizes, each | 2 | 4 | 8 |
| Pan bed E.I. slipper shaped medium size | 8 | 16 | 30 |
| Pillow air 18″ | 4 | 4 | 8 |
| Bottle brush | 2 | 4 | 8 |
| Bottle media, N.M. 6 oz. | 12 | 12 | 12 |
| Bottle media W.M. 1 oz. screw capped | 24 | 24 | 24 |
| Bottle white round drop 100 G | 12 | 24 | 40 |
| Capsule (Wrights) | 100 | 100 | 200 |
| Centrifuge hand complete | 2 | 2 | 4 |
| Centrifuge tubes (conical) | 12 | 24 | 48 |
| Clip staining for 10 slides | 1 | 2 | 3 |
| Staining jar for slides | 1 | 1 | 2 |
| Comparator Lovibond complete | 1 | 1 | 2 |
| Forceps bent fine point | 1 | 2 | 4 |

## Appendix XXIV—*contd.*

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| Forceps cover glass (Cornet) .. .. .. .. | 1 | 2 | 4 |
| Flask glass .. .. .. .. .. | 4 | 8 | 16 |
| Glass urine conical 8oz. .. .. .. .. | 24 | 24 | 50 |
| Haemocytometer (Neubauer) with bright lines complete .. | 1 | 1 | 1 |
| Haemocytometer (Neubauer's) glass cover .. .. | 16 | 12 | 24 |
| Haemocytometer (Neubauer's) pipette, red cells, white cells, each .. .. .. .. .. | 3 | 6 | 6 |
| Haemoglobinometer Sahli complete in case .. .. | 1 | 2 | 3 |
| Haemoglobinometer, Sahli Pipette, blood spare for .. | 1 | 2 | 3 |
| Haemoglobinometer Sahli tube graduated for .. .. | 1 | 2 | 4 |
| Thermometer 60°C .. .. .. .. .. | 1 | 1 | 2 |
| Jar glass for slides .. .. .. .. .. | 1 | 2 | 4 |
| Lamp electric microscope complete .. .. .. | 1 | 1 | 1 |
| Lamp, spirit brass 8 oz. .. .. .. .. | 2 | 2 | 2 |
| Lens watchmaker's type .. .. .. .. | 1 | 1 | 1 |
| Microscope complete .. .. .. .. .. | 2 | 2 | 2 |
| Pipette bulb from all sizes, each .. .. .. | 2 | 4 | 6 |
| Media Bottles all sizes, each .. .. .. .. | 24 | 48 | 100 |
| Corks assorted, gross .. .. .. .. .. | 10 | 20 | 30 |
| Slides and cover slips, gross .. .. .. .. | 3 | 6 | 12 |
| Sheeting water proof I.R. thin, thick, metre .. .. | 6 | 12 | 24 |
| Syringe enema (Higginson) .. .. .. .. | 2 | 4 | 8 |
| Thermometer clinical (30 second, 95°F—110°F) .. .. | 10 | 20 | 30 |
| Tray E.I. deep all sizes, each .. .. .. .. | 2 | 4 | 8 |
| Tray E.I. kidney shaped 10″ .. .. .. .. | 4 | 8 | 8 |
| Tray E. I. shallow all sizes, each .. .. .. | 2 | 4 | 8 |
| Tray, Storrall .. .. .. .. .. | 12 | 24 | 48 |
| Tube rectal flatus size 18 English Catheter G .. .. | 2 | 4 | 6 |
| Tube stomach, India Rubber, size 19 .. .. .. | 2 | 4 | 6 |
| Urinal E. I. male .. .. .. .. .. | 10 | 10 | 20 |
| *Dispensary Appliances* | | | |
| Funnel E. I. all sizes, each .. .. .. .. | 1 | 2 | 4 |
| Gallipots flat bottomed nest of 4 .. .. .. | 1 | 2 | 4 |
| Measure glass 2 oz. .. .. .. .. .. | 2 | 4 | 8 |
| Urine test case complete .. .. .. .. | 1 | 1 | 1 |
| Measure, glass 1 dr. .. .. .. .. .. | 1 | 2 | 4 |
| Mortar composition .. .. .. .. .. | 1 | 1 | 1 |
| Nail clipper .. .. .. .. .. | 4 | 8 | 16 |
| Mortar glass 4″ .. .. .. .. .. | 1 | 1 | 1 |
| Nail brush .. .. .. .. .. .. | 12 | 24 | 50 |
| Rod, glass, stirring .. .. .. .. .. | 2 | 4 | 8 |
| Slab ointment .. .. .. .. .. | 2 | 3 | 5 |
| Spatula, bolus, 7″ .. .. .. .. .. | 2 | 3 | 5 |
| *Laboratory Appliances* | | | |
| Aluminometer (Esbach) complete .. .. .. | 1 | 2 | 2 |
| Basket wire for test tubes .. .. .. .. | 1 | 2 | 2 |
| Blood sedimentation rate pipette (Westergren) with spare buffers .. .. .. .. .. .. | 2 | 2 | 2 |
| Blood sedimentation rate stand for 6 pipettes (Westergren) .. .. .. .. .. .. | 1 | 2 | 2 |
| Bottle cedarwood oil .. .. .. .. | 1 | 2 | 2 |
| Crucible porcelain .. .. .. .. .. | 2 | 4 | 8 |
| Tripod stand .. .. .. .. .. | 2 | 4 | 8 |
| Trough staining for 5 slides .. .. .. .. | 1 | 2 | 2 |
| Tube, swab (West) for throats tube only .. .. | 6 | 12 | 24 |
| Test tube brush .. .. .. .. .. | 12 | 24 | 48 |
| Test tube clamp .. .. .. .. .. | 2 | 4 | 8 |

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APPENDIX XXIV—*contd.*

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| Tube, wintrobe | 2 | 4 | 8 |
| Test tube rack | 2 | 4 | 8 |
| Tube, wintrobe stand to hold 12 tubes for | 1 | 1 | 1 |
| Tubing glass soft all sizes, each, metres | 1 | 2 | 2 |
| Tripod stand | 1 | 2 | 4 |
| Urine and blood, test case, for complete | 1 | 1 | 1 |
| Urinometer in case | 1 | 2 | 2 |
| Watch glass | 12 | 24 | 48 |
| Weighing scale (dispensing) with weights | 1 | 2 | 3 |
| Blood transfusion apparatus, complete | 1 | 2 | 3 |
| *Maternity Appliances* | | | |
| Foetoscope | 2 | 4 | 8 |
| Pelvimeter external | 2 | 2 | 4 |
| Scale infant | 1 | 1 | 2 |
| Vaginal speculum (bivalve) | 2 | 2 | 2 |
| Sims speculum & retractor | 2 | 2 | 2 |
| Catheter female metal | 2 | 2 | 4 |
| Breast pump | 2 | 2 | 4 |
| Vaginal speculum weighted | 2 | 2 | 2 |
| Catheter self retaining | 2 | 4 | 8 |
| Catheter flushing (Bozeman) | 1 | 1 | 2 |
| Curette flushing, blunt | 2 | 2 | 2 |
| Curette sharp double ended big | 1 | 1 | 2 |
| Curette sharp double ended small | 1 | 1 | 2 |
| Dilator uterine (Hegars) set | 1 | 1 | 1 |
| Forceps obstetric (Haig Fergusson) | 1 | 2 | 3 |
| Forceps ovum (big) | 1 | 1 | 2 |
| Forceps placenta Praevia (Willett) | 1 | 1 | 2 |
| Forceps sponge | 1 | 2 | 4 |
| Forceps vulsellum | 1 | 2 | 4 |
| Insufflator vaginal | 1 | 2 | 4 |
| Perforator membrance | 1 | 1 | 2 |
| Perforator cranium | 1 | 1 | 2 |
| Cranioclast & cephalortribe Combined (Winters) | 1 | 1 | 1 |
| Breech hook | 1 | 2 | 4 |
| Scissors embryotomy | 1 | 2 | 2 |
| Scissors episiotomy | 1 | 2 | 2 |
| Undine | 6 | 6 | 6 |
| Aspirator nasal infant size | 2 | 2 | 2 |

## B—MEDICAL EQUIPMENT FOR ALL SECTIONS OF A HOSPITAL 100/250/500 BEDS

| Articles | A/V | Quantity For 100 beds | For 250 beds | For 500 beds |
|---|---|---|---|---|
| 1 | | 2 | 3 | 4 |
| *Aseptic Furniture* | | | | |
| Cabinet instrument 56″×37″×12″ with drop-front cupboards below, complete | No. | 4 | 8 | 16 |
| Leg rest for lithotomy position (Chrome plated) | ,, | 6 | 12 | 24 |
| Stand instrument Mayo folding with tray | ,, | 2 | 4 | 8 |
| Stand for three, 2 gallon reservoir jars complete | ,, | 1 | 2 | 4 |
| Stand wash for two basins portable with folding or jointed legs complete | ,, | 6 | 12 | 24 |
| Table anaesthetic portable 16″×16″ | ,, | 3 | 6 | 12 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Table instrument portable 24″×18″ | No. | 9 | 18 | 36 |
| Table instrument folding light | ,, | 9 | 18 | 36 |
| Table operation folding light with lithotomy leg rests, extension brackets and anaesthetic screen | ,, | 1 | 2 | 4 |
| Table operation folding Buchanan pattern complete | ,, | 1 | 2 | 4 |
| Table operation ordinary | ,, | 3 | 6 | 12 |
| Table operation folding | ,, | 3 | 6 | 12 |
| Table operation sponge rubber pads set of 3 | Set | 5 | 10 | 20 |
| Table operation St. Barthlomew's Hospital pattern Model 'A' complete | No. | 1 | 4 | 4 |
| Table Orthopaedic improved model (W & J) | ,, | 1 | 2 | 4 |
| Table post mortem complete | ,, | 1 | 2 | 4 |
| Trolley operation complete | ,, | 4 | 8 | 16 |
| Trolley ward 27″×18″×32″ | ,, | 8 | 16 | 32 |
| *Anaesthetic appliances* | | | | |
| Airway (Hewitts) aluminium and rubber small and large | No. | 4 | 8 | 16 |
| Airway (Waters) medium | ,, | 2 | 4 | 8 |
| Airway (Guedle) all rubber with metal inserg (Children's) Medium, large sizes | ,, | 2 | 4 | 8 |
| App. Oxygen combined inflater/injector section with trolley, stand etc. | ,, | 1 | 2 | 4 |
| Apparatus (Boyles) complete B.O.C.M.S. 4/3 Type 'G' | ,, | 1 | 2 | 4 |
| Valve fine adjustment for cylinders carbon dioxide and nitrous oxide | ,, | 2 | 4 | 8 |
| Cylinder carbon dioxide 4 lbs. empty | ,, | 5 | 10 | 20 |
| Cylinder nitrous oxide 200 gallons empty | ,, | 60 | 120 | 240 |
| Catheter Oral (Magill) intratracheal all sizes, each | ,, | 1 | 2 | 4 |
| Catheter Nasal (Magill) intratracheal all sizes, each | ,, | 2 | 4 | 8 |
| Catheter Oral (Magill) endotracheal with inflatable cuff tube and pilot bag all sizes, each | ,, | 2 | 4 | 8 |
| Catheter Oral (Magill) elbow mount all sizes, each | ,, | 3 | 6 | 12 |
| Catheter Oral (Magill) intratracheal with inflatable cuff tube and pilot bag all sizes, each | ,, | 3 | 6 | 12 |
| Cylinder cyclopropane 50 gallon empty | ,, | 5 | 10 | 20 |
| Cylinder cyclopropane key hand wheel | ,, | 2 | 4 | 8 |
| Drop tube (Bellamy-Gardner) with cork | ,, | 2 | 4 | 8 |
| Face piece goitre | ,, | 1 | 2 | 4 |
| Forceps tongue | ,, | 2 | 4 | 8 |
| Forceps endotracheal (Magill's) for introducing endotracheal tube, adult, child sizes, each | ,, | 1 | 2 | 4 |
| Forceps intratracheal for introducing catheters | ,, | 1 | 2 | 4 |
| Inhaler (Schimmel busch) large and small size, each | ,, | 2 | 4 | 8 |
| Mouth gag (Mason), adult, children's sizes, each | ,, | 1 | 2 | 4 |
| Mouth gag (Sydenham) adult, children's sizes, each | ,, | 2 | 4 | 8 |
| Mouth prop and airway London Hospital pattern 1½cm, 1¼ cm and 1 cm bite, set of 3, complete | Set | 1 | 2 | 4 |
| Pharyngoscope (Magill) | No. | 2 | 3 | 4 |
| Sphygmomanometer mercurial pattern graduated to 300 mm long connecting tubes pump and arm band | ,, | 1 | 2 | 4 |
| Stethoscope Bronchial light pattern with long tubes, armpiece with rubber band | ,, | 1 | 2 | 4 |
| Respirator chest abdomen (Spirashell) etc. | ,, | 1 | 2 | 4 |
| Spinal and Local anaesthetic outfit (Labat) complete | ,, | 1 | 2 | 4 |
| Respirator intermittent positive negative pressure tc. | ,, | 1 | 2 | 4 |
| Spray laryngeal (McIntosh) type | ,, | 1 | 2 | 4 |
| Despirator intermittent positive pressure manual bellows or balloon type | ,, | 1 | 2 | 4 |
| Tube endotracheal armoured with small feed tube all sizes, each | ,, | 1 | 2 | 4 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Tube endotracheal rubber fully curved with balloon and pilot bag all sizes, each .. .. | No. | 1 | 2 | 4 |
| Tube nasal soft rubber with flange, all sizes, each .. | ,, | 1 | 2 | 4 |
| Tube endotracheal Cobb suction all sizes, each .. | ,, | 1 | 2 | 4 |
| Tube duodenal (Levins) Solid tip 125 cm 4 eyes .. | ,, | 1 | 2 | 4 |
| Apparatus, anaesthetic, cylinder oxygen, 12 cu. ft., empty .. .. .. .. | ,, | 90 | 180 | 360 |
| App. artificial pneumathorax complete .. .. | ,, | 1 | 2 | 4 |
| Apparatus Oxygen B.L.B. pattern with nasal mask, flowmeter, pressure gauge .. .. .. | ,, | 5 | 10 | 20 |
| Oxygen cylinder 20 cft. empty .. .. .. | ,, | 20 | 40 | 80 |
| Oxy. & Carbon Dioxide mixture (95·5) cylinder 20 cft. empty .. .. .. .. | ,, | 2 | 4 | 8 |
| Oxygen cylinder (40 cft.) empty .. .. .. | ,, | 15 | 30 | 60 |
| Oxygen cylinder fine adjustment valve with gauge .. | ,, | 6 | 12 | 24 |
| Oxygen cylinder key lever for .. .. .. | ,, | 12 | 24 | 48 |
| Oxygen cylinder stand for .. .. .. | ,, | 8 | 16 | 32 |
| Aspirator Potain complete .. .. .. | ,, | 2 | 3 | 5 |
| App. Suction electric with foot switch complete for A.C./D.C. .. .. .. .. .. | ,, | 6 | 12 | 24 |
| Aspirator unit double bottle vaculyser Aerosal type S-V. 7, 220/250 volts MG complete with pressure rubber tubing and one set of metal suction tube in case .. .. .. .. | ,, | 1 | 2 | 4 |
| App. Suction foot action complete .. .. | ,, | 1 | 2 | 4 |
| Aspirator unit double bottle vaculyser type S.V. 7b, 220/250 volts A.C. complete with pressure tubing and one set of metal suction in case .. .. | ,, | 1 | 2 | 4 |
| Awl all sizes, each .. .. .. .. | ,, | 1 | 2 | 4 |
| Awl without eye at point stainless steel in nickel plated handle sizes A & B .. .. .. | ,, | 1 | 2 | 4 |
| Bougies Urethral (Clutton's) set of 12, in metal case, complete .. .. .. .. .. | Set | 1 | 2 | 4 |
| Brace (Souttaris) for all burs and drills .. .. | No. | 1 | 2 | 4 |
| Burs all sizes (to fit Souttar's Brace), each .. | ,, | 1 | 2 | 4 |
| Caliper skull traction .. .. .. .. | ,, | 1 | 2 | 4 |
| Catheter gum elastic boilable variety all sizes, each | ,, | 2 | 4 | 8 |
| Catheter I.R. all sizes, each .. .. .. | ,, | 4 | 8 | 16 |
| Catheter Foly "Cleartex" rubber size 18 catheter gauge retention, balloon 5 cc/20cc/30 cc capacity .. | ,, | 2 | 4 | 8 |
| Catheter metal all sizes, each .. .. .. | ,, | 1 | 2 | 4 |
| Catheter Foly "Cleartex" rubber all sizes, each .. | ,, | 1 | 2 | 4 |
| Catheter sterilising tray .. .. .. | ,, | 1 | 2 | 4 |
| Catheters suction endobronchial gum elastic all sizes, each .. .. .. .. .. | ,, | 2 | 4 | 8 |
| Catheter suprapubic (Malecot) I.R. all sizes .. | ,, | 6 | 12 | 24 |
| Catheter suprapubic introducer .. .. | ,, | 1 | 2 | 4 |
| Catheter ureteric X-Ray opaque all sizes, each .. | ,, | 4 | 8 | 16 |
| Catheter ureteric connection rubber (step up), to 10 cc syringe .. .. .. .. .. .. | ,, | 2 | 4 | 8 |
| Catheter ureteric sterilising tube .. .. | ,, | 2 | 4 | 8 |
| Chisel bone 5/16″ .. .. .. .. | ,, | 2 | 4 | 8 |
| Clamp intestine crushing lever action (Payr) large, medium, small sizes .. .. .. | ,, | 2 | 4 | 8 |
| Clamp intestine (Kocher) 4 in. blades .. .. | ,, | 4 | 8 | 16 |
| Clamp stomach (Moynihan) 7″ blades .. .. | ,, | 4 | 8 | 16 |
| Clamp stomach crushing (Payr) 6″ blades .. | ,, | 1 | 2 | 4 |
| Cleft palate and hare lip instrument set complete .. | ,, | 1 | 2 | 4 |
| Clip towel cross-action .. .. .. | ,, | 18 | 36 | 72 |
| Clip towel (Moynihan) 1/1 teeth .. .. .. | ,, | 12 | 24 | 48 |
| Clip towel (Moynihan) 2/2 teeth .. .. .. | ,, | 12 | 24 | 48 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Clip metal (Michel) set in case complete | Set | 1 | 2 | 4 |
| Clip silver (Cushing Mckenzie) apparatus complete | No. | 1 | 2 | 4 |
| Cutter Facial graft (Mason) | ,, | 1 | 2 | 4 |
| Cystoscope complete | ,, | 2 | 3 | 5 |
| Dissector (Kocher) | ,, | 3 | 5 | 8 |
| Dissector (Watson Cheyne) | ,, | 3 | 6 | 12 |
| Drill twist (Morse) all sizes (to fit Souttars' Brace) | ,, | 2 | 4 | 8 |
| Elevator bone lever (Bristow) 9″ | ,, | 2 | 4 | 8 |
| Elevator dura-meter, double ended (Horsley) | ,, | 2 | 4 | 8 |
| Elevator periesteal sharp curved (Adson) | ,, | 2 | 4 | 8 |
| Enterotome (Dupuytren) | ,, | 1 | 2 | 4 |
| File (Tubby) | ,, | 1 | 2 | 4 |
| Forceps artery (Cairns) curved 5½″ | ,, | 18 | 36 | 72 |
| Forceps artery (Cairns) straight 5½″ | ,, | 6 | 12 | 24 |
| Forceps artery (Dunhills) 5 in. | ,, | 12 | 24 | 48 |
| Forceps artery "Featherweight" straight screw-joint | ,, | 6 | 12 | 24 |
| Forceps artery (Halstead) mosquito | ,, | 18 | 36 | 72 |
| Forceps artery (Kocher) 6 in. | ,, | 18 | 36 | 72 |
| Forceps artery (Mayo Ochner's) curved on flat with tenaculum point and box joint 7½ in. | ,, | 12 | 24 | 48 |
| Forceps artery (Spencer Wells) 5 in. | ,, | 36 | 72 | 144 |
| Forceps artery (Spencer Wells) 8 in. | ,, | 18 | 36 | 72 |
| Forceps bone cutting | ,, | 2 | 4 | 8 |
| Forceps bone cutting (Horsley Cairns) curved on left | ,, | 1 | 2 | 4 |
| Forceps bone cutting (Horsley Cairns) curved on right | ,, | 1 | 2 | 4 |
| Forceps bone cutting straight with fine points | ,, | 2 | 4 | 8 |
| Forceps bone holding (Lane) for large bones, for small bones, each | ,, | 2 | 4 | 8 |
| Forceps bowl lifting (Harrison) | ,, | 2 | 4 | 8 |
| Forceps cartilege (Martin's) 13 cm | ,, | 1 | 2 | 4 |
| Forceps cholecystectomy (Moynihan) | ,, | 2 | 4 | 8 |
| Forceps dissecting (McIndoe) 6 in. | ,, | 2 | 4 | 8 |
| Forceps dissecting plain 5 in. each | ,, | 12 | 24 | 48 |
| Forceps dissecting toothed 7 in. | ,, | 8 | 16 | 32 |
| Forceps gall-stone small | ,, | 2 | 4 | 8 |
| Forceps gouge double action | ,, | 2 | 3 | 5 |
| Forceps gouge (Devilbiss) with spare blade | ,, | 2 | 3 | 5 |
| Forceps intestine holding | ,, | 2 | 4 | 8 |
| Forceps lung holding | ,, | 2 | 4 | 8 |
| Forceps necrosis | ,, | 2 | 4 | 8 |
| Forceps pedicle curved on flat | ,, | 4 | 8 | 16 |
| Forceps peritoneum (Allis) | ,, | 12 | 24 | 48 |
| Forceps sinus 7 in. | ,, | 3 | 6 | 12 |
| Forceps sponge holding with serrated jaws | ,, | 6 | 12 | 24 |
| Forceps steriliser (Cheatle) | ,, | 7 | 14 | 28 |
| Forceps steriliser (Moorefield pattern) | ,, | 2 | 4 | 8 |
| Forceps stone | ,, | 1 | 2 | 4 |
| Forceps tissue (Lane) 6 in. | ,, | 12 | 24 | 48 |
| Fork tuning for vibratory sensation | ,, | 1 | 2 | 4 |
| Gloves operation rough size 6, 6½, 7, 7½ each | Pair | 18 | 36 | 72 |
| Gorget (Teale) | No. | 1 | 2 | 4 |
| Gouge straight 7/16″ | ,, | 2 | 4 | 8 |
| Gouge St. Thomas pattern with rounded end ¼″, 5/16″, 3/8″, ½″, each | ,, | 1 | 2 | 4 |
| Hammer all metal (Heath) | ,, | 2 | 4 | 8 |
| Hammer all metal (Stuart Low's) | ,, | 2 | 4 | 8 |
| Headlight "Winchester" | ,, | 3 | 6 | 12 |
| Hook blunt | ,, | 4 | 8 | 16 |
| Hook blunt double | ,, | 4 | 8 | 16 |
| Instruments Bone Plating (Lane) complete | ,, | 1 | 2 | 4 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 | 4 | |
|---|---|---|---|---|
| Instruments Chiropody set of complete | Set | 1 | 2 | 4 |
| Instruments Electric Operative (Albee) set of complete | ,, | 1 | 1 | 2 |
| Instruments Haemorrhoidal Injection set of complete | ,, | 1 | 2 | 4 |
| Knife amputating 6″ blade | No. | 2 | 4 | 8 |
| Knife, B.P. blade pkt. of 6 all sizes, each | Pkt. | 12 | 24 | 48 |
| Knife B.P. handle No. 3, 4, each | No. | 6 | 12 | 24 |
| Knife skin grafting (Blair) with metal guard | ,, | 2 | 3 | 4 |
| Knife tenotomy blunt ended | ,, | 3 | 6 | 12 |
| Knife tenotomy Jones set of 2″ wooden box | Set | 1 | 2 | 4 |
| Mallet stainless steel fluted handle ¾ lbs. diameter 1-3/8″ | No. | 2 | 3 | 4 |
| Manometer spinal (Adson) complete | ,, | 3 | 6 | 12 |
| Needle aneurysm, all sizes, each | ,, | 3 | 6 | 12 |
| Needle brain (Cushing Cairns) blunt | ,, | 2 | 3 | 4 |
| Needle exploring 1·4 mm, diam. (17 S.W.G.) | ,, | 2 | 4 | 8 |
| Needle fascia (Gallie) curved 3 sizes pkt. of 6 | Pkt. | 1 | 2 | 4 |
| Needle Gordhs with attachments for transfusion Drip | No. | 3 | 6 | 12 |
| Needle holder (Mayo) 7-1/2″ box joint | ,, | 1 | 2 | 4 |
| Needle holder (Sim) | ,, | 3 | 6 | 12 |
| Needle hypodermic, all sizes, each | ,, | 24 | 48 | 96 |
| Needle serum | ,, | 36 | 72 | 144 |
| Needle sternum puncture | ,, | 2 | 4 | 8 |
| Needle Spinal anaesthesia (Dattner's) | ,, | 2 | 4 | 8 |
| Needle spinal (Howard Jones) | ,, | 12 | 24 | 48 |
| Needle splanchnic (Finasterer) | ,, | 1 | 2 | 4 |
| Needle suture cutting full curved triangular pointed sizes 3 (Large), 9 (medium) &15 (small) pkt. of 6 each | Pkt. | 2 | 4 | 8 |
| Needle suture half circle scalp spring eyed all sizes, pkt. of 6 | ,, | 2 | 4 | 8 |
| Needle suture cutting half circle triangular pointed sizes 3 (Large), 9 (Medium) & 15 (small) pkt. of 6 | ,, | 2 | 4 | 8 |
| Needle suture intestinal spring eyed all sizes, pkt. of 6 | ,, | 2 | 4 | 8 |
| Needle suture intestinal half circle all sizes pkt. of 6 each | ,, | 3 | 6 | 12 |
| Needle suture cutting straight triangular pointed all sizes pkt. of 6, each | ,, | 3 | 12 | 24 |
| Needle suture intestinal straight all sizes pkt. of 6 | ,, | 3 | 6 | 12 |
| Needle suture liver curved all sizes, pkt. of 6 each | ,, | 4 | 8 | 16 |
| Needle suture round bodied full curved all sizes, pkt. of 6, each | ,, | 2 | 4 | 8 |
| Needle suture round bodied half circle, all sizes pkt. of 6, each | ,, | 2 | 4 | 8 |
| Needle suture triangular pointed full curved fine, all sizes, pkt. of 6 | ,, | 2 | 4 | 8 |
| Needle for Varicose Vein injection to fit record type syringe | No. | 2 | 4 | 8 |
| Osteotome 1½″ & 1″ | ,, | 1 | 2 | 4 |
| Osteotome (McEwen) 3/8″, 7/16″ & 1/2″ | ,, | 1 | 2 | 4 |
| Percussor (Babinski) | ,, | 2 | 4 | 8 |
| Perforator (Hudson) 14 mm | ,, | 1 | 2 | 4 |
| Pins safety (Mayo) | ,, | 10 | 20 | 40 |
| Pliers wire cutting with forceps end | ,, | 2 | 4 | 8 |
| Probe and director (Wheelhouse) | ,, | 3 | 6 | 12 |
| Probe gallstone (Moynihan) | ,, | 1 | 2 | 4 |
| Probe silver 10″ malleable | ,, | 4 | 8 | 16 |
| Raspatory (Doyon) left | ,, | 1 | 2 | 4 |
| Raspatory (Doyon) right | ,, | 1 | 2 | 4 |
| Razor skin grafting | ,, | 2 | 4 | 8 |
| Retractor abdominal (Morris) 2½″ wide | ,, | 4 | 8 | 16 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Retractor abdominal (Pozzi) trivalve .. .. | No. | 1 | 2 | 4 |
| Retractor abdominal lever 15″×1-3/4″ .. .. | ,, | 2 | 4 | 8 |
| Retractor double and single blunt hooks small .. | ,, | 4 | 8 | 16 |
| Retractor (Kilner) double curved .. .. | ,, | 2 | 4 | 8 |
| Retractor (Kelly's) .. .. .. .. | ,, | 1 | 2 | 4 |
| Retractor (London Hospital pattern) solid blade 7/8″ wide .. .. .. .. .. | ,, | 2 | 4 | 8 |
| Retractor laminectomy .. .. .. | ,, | 1 | 2 | 4 |
| Retractor (Langenbeck) 7/8″×¼″ wide & 1¾″×½″ wide | ,, | 2 | 4 | 8 |
| Retractor malleable copper straight 1″×8″ .. | ,, | 2 | 4 | 8 |
| Retractor malleable copper straight 2½″×10½″ .. | ,, | 2 | 4 | 8 |
| Retractor scalp (Cairns) large four pronged .. | ,, | 1 | 2 | 4 |
| Rugine curved end (Farabeuf) .. .. .. | ,, | 1 | 2 | 4 |
| Saw amputating (Butcher) .. .. .. | ,, | 2 | 4 | 8 |
| Saw finger .. .. .. .. .. | ,, | 1 | 2 | 4 |
| Saw (Gigli) set of 3 handles .. .. .. | Set | 2 | 4 | 8 |
| Saw Plaster cutting electric .. .. .. | No. | 1 | 2 | 4 |
| Saw thread guide and protector for (Cairns de Martel) .. .. .. .. .. | ,, | 1 | 2 | 4 |
| Scalpel 2″ .. .. .. .. .. | ,, | 6 | 12 | 24 |
| Scissors curved on flat (Mayo) 7½″ .. .. | ,, | 8 | 16 | 32 |
| Scissors shop 7″ .. .. .. .. | ,, | 10 | 20 | 40 |
| Scissors straight (Mayo) 7½″ .. .. .. | ,, | 6 | 12 | 24 |
| Scissors straight both points blunt 5″ .. .. | ,, | 12 | 24 | 48 |
| Scissors straight both points sharp 5″ .. .. | ,, | 10 | 20 | 40 |
| Scissors surgical (Kilner) 4-3/4″ curved blunt pointed .. .. .. .. .. | ,, | 1 | 2 | 4 |
| Scissors surgical (Kilner) straight.. .. .. | ,, | 1 | 2 | 4 |
| Scoop oval double ended .. .. .. | ,, | 3 | 6 | 12 |
| Separator rib (Tuffer) with locking lever .. .. | ,, | 1 | 2 | 4 |
| Shears rib (Tudor-Edwards) combined action .. | ,, | 1 | 2 | 4 |
| Shears rib with raspatory (Doyen) .. .. | ,, | 1 | 2 | 4 |
| Sigmoidoscope complete .. .. .. | ,, | 2 | 4 | 8 |
| Spatula brain large malleable (Olive Crona) .. | ,, | 1 | 2 | 4 |
| Speculum electric (Naunton-Morgan) complete .. | ,, | 1 | 2 | 4 |
| Speculum rectal sphincteroscope type .. | ,, | 2 | 4 | 8 |
| Sphygmomanometer complete .. .. .. | ,, | 3 | 6 | 12 |
| Spirit lamp nickel plated 2½ ozs. .. .. .. | ,, | 5 | 10 | 20 |
| Spirit lamp brass with screw cap 2 ozs. .. .. | ,, | 5 | 10 | 20 |
| Sterilizer high pressure vacuum horizontal hospital pattern portable type Manlove, Alliott, complete with oil burner and oil reservoirs, in case .. | ,, | 1 | 2 | |
| Steriliser high pressure vacuum horizontal hospital | | | | 3 |
| pattern portable type manlove Alliott, accessories for, set of complete .. .. .. .. | Set | 1 | 2 | 4 |
| Steriliser Manlove Alliott, drum deep for .. .. | No. | 12 | 24 | 48 |
| Steriliser Manlove Alliott, drum shallow for .. | ,, | 12 | 24 | 48 |
| Steriliser for bowls and water electric complete .. | ,, | 2 | 3 | 4 |
| Steriliser steam high pressure complete .. .. | ,, | 2 | 3 | 4 |
| Steriliser steam high pressure drum deep for .. | ,, | 16 | 32 | 64 |
| Stove 'Primus' with four burners .. .. | ,, | 2 | 4 | 8 |
| Steriliser steam high pressure drum shallow for .. | ,, | 20 | 40 | 80 |
| Steriliser Fish Kettle 18″ × 7″ × 5″ complete .. | ,, | 3 | 6 | 12 |
| Steriliser for Surgical instruments 17″ × 9¼″ × 4″ electric complete .. .. .. .. | ,, | 8 | 16 | 32 |
| Stethoscope .. .. .. .. .. | ,, | 3 | 6 | 12 |
| Syringe all glass 10 cc .. .. .. .. | ,, | 6 | 12 | 24 |
| Syringe all glass 20 cc .. .. .. .. | ,, | 2 | 4 | 8 |
| Syringe glass for Dakin's solution with I.R. bulb .. | ,, | 1 | 2 | 4 |
| Syringe hypodermic 2 cc .. .. .. | ,, | 16 | 32 | 64 |
| Syringe serum 10 cc, 20 cc, each .. .. .. | ,, | 8 | 16 | 32 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Syringe serum 20 cc with accentric nozzle .. | No. | 6 | 12 | 24 |
| Syringe serum 20 cc Stopcock 3 way .. .. | „ | 3 | 6 | 12 |
| Syringe tuberculin Record 1 cc graduated in 1/100th extra long barrel two stainless steel needles in metal case complete .. .. .. .. | „ | 1 | 2 | 4 |
| Syringe Tuberculin needle .. .. .. | Doz. | 1 | 2 | 4 |
| Tape measure linen 5 feet .. .. .. | No. | 4 | 8 | 16 |
| Tourniquet (Samway) complete .. .. .. | „ | 3 | 5 | 10 |
| Tourniquet pneumatic (Butler Campbell Byd) pattern .. .. .. .. .. | „ | 2 | 4 | 6 |
| Trephine (Horsley) ¾" .. .. .. .. | „ | 2 | 4 | 8 |
| Tresphine (Simpson Smith) 3/4" .. .. | „ | 2 | 4 | 8 |
| Trephine (Horsley) handle interchangeable .. . | „ | 2 | 4 | 8 |
| Trocar and Cannula .. .. .. .. | „ | 1 | 2 | 4 |
| Trocar suprapublic straight .. .. .. | „ | 1 | 2 | 4 |
| Tubing drainage corrugated sheet 12" × 6" for .. | Sheet | 6 | 12 | 24 |
| Tube drainage gall bladder rubber T shaped (Mainggot) size 6 English Chatheter Gauge 6 cm long .. | No. | 2 | 4 | 8 |
| Tube duodenal (Ryle) .. .. .. .. | „ | 8 | 16 | 32 |
| Urethroscope (Harrison) complete .. .. | „ | 1 | 2 | 4 |
| Wire cutter, for silver or Kirschner's wire.. .. | „ | 1 | 2 | 4 |
| *Ear, Nose & Throat instruments & Appliances* | | | | |
| Antrum diagnostic instruments (Watson Williams) set complete .. .. .. .. | Set | 1 | 2 | 4 |
| Apparatus transillumination (Moures) complete .. | No. | 1 | 2 | 4 |
| Atomiser nose and throat complete .. .. | „ | 2 | 4 | 8 |
| Auriscope electric complete .. .. .. | „ | 4 | 8 | 16 |
| Cannula tracheotomy size 28,24,20 and 18, each .. | „ | 2 | 4 | 8 |
| Depressor tongue (Lack) large, small, each .. | „ | 3 | 6 | 12 |
| Forceps aural dressing (Hartmann) .. .. | „ | 1 | 2 | 4 |
| Forceps nasal cutting (Luc) medium .. .. | „ | 1 | 2 | 4 |
| Forceps nasal dressings (Tilley) .. .. | „ | 1 | 2 | 4 |
| Forceps peritonsillar (St. Clair Thomson) .. | „ | 1 | 2 | 4 |
| Forceps trachea dilating .. .. .. | „ | 1 | 2 | 4 |
| Fork tuning (Gardiner Brone) C 256 .. .. | „ | 1 | 2 | 4 |
| Gouge mastoid (Jenkins) 8 & 10 .. .. | „ | 1 | 2 | 4 |
| Microscope binocular operating fenestration (Beck Lomag) with object glasses and one pair of eye piece × 6·6 on table clamp complete .. .. | „ | 1 | 2 | 4 |
| Mirror Laryngeal size 4 & 2 .. .. .. | „ | 1 | 2 | 4 |
| Mirror Rhinoscopic (St. Clair Thomson) medium, large .. .. .. .. .. .. | „ | 1 | 2 | 4 |
| Mouth gag (Davis) .. .. .. .. .. | „ | 1 | 2 | 4 |
| Mouth gag (Davis) tongue depressor adult, medium, each .. .. .. .. .. .. | „ | 1 | 2 | 4 |
| Oesophagoscope and Bronchoscopy instruments set of complete .. .. .. .. .. | Set | 1 | 2 | 3 |
| Probe aural dressing .. .. .. .. | No. | 1 | 2 | 4 |
| Retractor mastoid (Mollison) .. .. .. | „ | 1 | 2 | 4 |
| Scoop (Ballance) with curette .. .. .. | „ | 1 | 2 | 4 |
| Speculum nasal (Thudicum) second largest and smallest .. .. .. .. .. | „ | 1 | 2 | 4 |
| Syringe ear metal .. .. .. .. | „ | 1 | 2 | 4 |
| Tube tracheotomy set of complete .. .. | Set | 1 | 2 | 4 |
| *Eye Instruments & Appliances* | | | | |
| Chalazion knife, metal handle .. .. .. | No. | 1 | 2 | 4 |
| Dropper eye with teat .. .. .. .. | „ | 12 | 24 | 48 |
| Forceps cillia (Bennett's) .. .. .. | „ | 1 | 2 | 2 |
| Forceps dissecting fine .. .. .. .. | „ | 1 | 2 | 2 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Forceps iridectomy (Traquair's) .. .. .. | No. | 1 | 2 | 2 |
| Forceps tarsal cyst (Greene's) with detachable sides .. | ,, | 1 | 2 | 2 |
| Glasses dark smoked with side pieces (size 58, 60, 62 & 64 mm. PB) .. .. .. .. | ,, | 12 | 24 | 48 |
| Lens condensing 3 in. deep metal rim .. .. | ,, | 1 | 2 | 4 |
| Loupe corneal monocular 10 .. .. .. | ,, | 1 | 2 | 4 |
| Needle corneal foreign body Birmingham pattern .. | ,, | 1 | 2 | 4 |
| Ophthalmoscope Luminous (Lister Morton) ward model complete .. .. .. .. | ,, | 2 | 4 | 6 |
| Perimeter (Lister's) recording complete .. .. | ,, | 1 | 2 | 4 |
| Rod ointment glass .. .. .. .. | ,, | 6 | 12 | 24 |
| Scissors Iris straight sharp pointed .. .. | ,, | 1 | 2 | 4 |
| Shades eye double green latha cloth .. .. | Doz. | 1 | 2 | 4 |
| Shades eye single green latha cloth .. .. | ,, | 1 | 2 | 4 |
| Speculum (Smith's) .. .. .. .. | No. | 1 | 2 | 4 |
| Spud eye .. .. .. .. .. | ,, | 1 | 2 | 4 |
| Test colour blindness (Ishihara's) .. .. | ,, | 1 | 2 | 4 |
| Test Colour vision (medical college) .. .. | ,, | 1 | 2 | 4 |
| Test type distant vision set of four .. .. | Set | 1 | 2 | 4 |
| Test type distant vision 'E' charts for illiterates (Bishop Harman's) .. .. .. .. .. | No. | 1 | 2 | 4 |
| Test type distant vision revolving drum with spot light distant control .. .. .. .. | ,, | 1 | 2 | 4 |
| Test type reading local language .. .. | ,, | 1 | 2 | 4 |
| Test type reading (Jaeger's) in wooden frame .. | ,, | 1 | 2 | 4 |
| Undine glass 4 ozs. .. .. .. .. | ,, | 2 | 4 | 8 |
| *Fracture & Orthopaedic Equipments* | | | | |
| Apparatus Kirschner Drill (Mckelvey) .. .. | No. | 2 | 4 | 8 |
| Apparatus Kirschner spanner .. .. .. | ,, | 2 | 4 | 8 |
| Apparatus Kirschner Stirrup all sizes, each .. | ,, | 4 | 8 | 16 |
| Apparatus (Kirschner) strainer .. .. .. | ,, | 2 | 4 | 8 |
| Apparatus (Kirschner) wires 10″ × 1 1/2 mm .. | Doz. | 4 | 8 | 16 |
| Apparatus (Kirschner) stirrup 6 cm. × 5 cm. .. | No. | 4 | 8 | 16 |
| Apparatus Kirschner wire shields with side screws | Pair | 1 | 2 | 4 |
| Apparatus screw traction (Bohler) Stirrup 6 in .. | No. | 6 | 12 | 24 |
| Apparatus Screw Traction (Bohler) legs combined outfit .. .. .. .. .. | ,, | 1 | 2 | 4 |
| Apparatus screw Traction (Bohler) Stirrup 4-1/2″ & 3-1/2″ .. .. .. .. .. | ,, | 6 | 12 | 24 |
| Apparatus screw traction (Bohler) pins (Steinmenn) 8″ × 4 mm. 6″ × 4 mm. each .. .. .. | ,, | 24 | 48 | 96 |
| pp ratus screw Traction (Bohler) handle (Steinmann) pins introducing .. .. .. | ,, | 1 | 2 | 4 |
| Apparatus Smith-Peterson complete .. .. | ,, | 1 | 1 | 1 |
| Apparatus Taction for Tibia (Watson Jone's) nickel plated complete .. .. .. .. | ,, | 1 | 2 | 4 |
| Bags sand empty with rings and hooks (for extension apparatus) .. .. .. .. .. | ,, | 240 | 480 | 960 |
| Beam Balkanwooden standard uprights and long cross-bar (for legs) with pulleys .. .. | ,, | 6 | 12 | 12 |
| Bed rest light detachable .. .. .. | ,, | 2 | 4 | 8 |
| Board Fracture 37″ × 6″ .. .. .. | ,, | 120 | 240 | 480 |
| Buckle 2 in. with 2 teeth .. .. .. | Doz. | 4 | 8 | 16 |
| Buckle 1 in. with 2 teeth .. .. .. | ,, | 8 | 16 | 16 |
| Claipers walking Charnley set of 4 complete .. | Set | 2 | 4 | 8 |
| Clip finger extension (Brock) .. .. .. | No. | 10 | 20 | 40 |
| Cord stout for extension apparatus .. .. | Yd. | 100 | 200 | 400 |
| Cord thin for extension apparatus .. .. | ,, | 10 | 20 | 40 |
| Cradle bed collapsible .. .. .. .. | No. | 20 | 40 | 80 |
| Crutch adjustable .. .. .. .. | ,, | 40 | 80 | 160 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| **Forceps plaster bending** | No. | 5 | 6 | 8 |
| **Hook for stirrup (Kirschner and Bohler)** | ,, | 60 | 120 | 240 |
| **Iron walking for incorporation in plaster casts** | ,, | 24 | 48 | 96 |
| **Knife plaster (Guy) complete** | ,, | 2 | 4 | 8 |
| **Redresseur (Bohler)** | ,, | 1 | 2 | 4 |
| **Saw Plaster (as Horsely)** | ,, | 3 | 6 | 12 |
| **Shears Plaster (Bohler)** | ,, | 3 | 6 | 12 |
| **Shears Plaster (Loren)** | ,, | 3 | 6 | 12 |
| Splinting Wire (Cramer) 100 cm. × 10 cm. Piece | ,, | 24 | 48 | 96 |
| Splinting Wire (Cramer) 60 cm. × 8 cm | ,, | 24 | 48 | 96 |
| Splint Femur (Bohler) 4 pulley with flemings detachable end piece | ,, | 6 | 12 | 24 |
| Splint knee (Thomas) 25″ 23″ and 21″, each | ,, | 6 | 12 | 24 |
| Splint knee (Thomas) flexion piece (Pearson) for | ,, | 24 | 48 | 96 |
| Splint knee (Thomas) foot piece for | ,, | 24 | 48 | 96 |
| Stick walking | ,, | 10 | 20 | 40 |
| Stirrup with lateral pressure pads to fit femur and leg splints (Braum) | ,, | 3 | 6 | 12 |
| Tape broad piece of 18 yds. | Piece | 6 | 12 | 24 |
| Tape narrow piece of 18 yds. | ,, | 6 | 12 | 24 |
| Tape with buckle for splints | Doz. | 4 | 8 | 16 |
| Webbing 2″, 1′ wide, each | Yd. | 40 | 80 | 160 |
| Weights for extension set of 6, complete with hanger | Set | 5 | 10 | 20 |
| Wire soft iron (annealed) 13 gauge for finger splints (1 lb=approx. 4 1/2 yds.) | Lb. | 1 | 2 | 4 |
| Wrench Talipos (Thomas) with 4″ arms covered with stout rubber (nickel plated) | No. | 1 | 2 | 4 |
| *Gynaecological & Obstetric Instruments* | | | | |
| Catheter flushing (Bozeman) 20 Fr. gauge | No. | 1 | 2 | 4 |
| Curette flushing blunt 9/16″ | ,, | 1 | 2 | 4 |
| Curetts sharp double ended | ,, | 1 | 2 | 4 |
| Dilator uteric hollow set of 16, conical metal size 3/6 to 18/21 mm in metal case | Set | 1 | 2 | 4 |
| Forceps uterine vulsellum with lateral curve three into three screw joint | No. | 1 | 2 | 4 |
| Sound uterine (Simpson) | ,, | 1 | 2 | |
| Speculum Vaginal (Sim) duck bill double ended-heavy model medium size 1 1/16″ × 1 3/16″ | ,, | 1 | 2 | 4 |
| *Dental Instruments and Appliances* | | | | |
| Elevator root all sizes, each | ,, | 1 | 2 | 4 |
| Forceps tooth universal | ,, | 1 | 2 | 4 |
| *Postmortem Instruments and Appliances* | | | | |
| Instruments postmortem set of complete | Set | 1 | 2 | 4 |
| Scales pedestal spring graduated dial to weight up to 5 kg. | No. | 1 | 2 | 4 |
| *Nursing Appliances* | | | | |
| Applicator wool metal complete | No. | 3 | 6 | 12 |
| Bag, ice, head I.R. 7 1/2″ | ,, | 6 | 12 | 24 |
| Bag, sand, empty 36″ × 6″ × 26″ × 6″, 16″ × 6″ each | ,, | 12 | 24 | 48 |
| Bottle hot water I.R. 12″ × 8″ | ,, | 18 | 36 | 72 |
| Bowl E.I. 4″, 8″, 10″ & 14″ each size | ,, | 7 | 14 | 28 |
| Box dressing | ,, | 2 | 4 | 8 |
| Clip for tubing | ,, | 30 | 60 | 120 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Cup feeding E.I. | No. | 8 | 16 | 32 |
| Finger stalls box of 12 | Box | 2 | 4 | 8 |
| Inhaler (Nelson) 1-1/4 pint size complete | No. | 4 | 8 | 16 |
| Irrigator 4 point with wound pipe and clip complete | ,, | 6 | 12 | 24 |
| Jar E.I. circular with cover 4″ × 4″ 8″ × 8″ each | ,, | 10 | 20 | 40 |
| Jar E.I. 2 gallon reservoir for lotion complete | ,, | 6 | 12 | 24 |
| Jug measure E.I. graduated 2 pint | ,, | 4 | 4 | 8 |
| Matress (Dunlopillo) latticed 6′ × 3′ × 4″ covered | ,, | 50 | 100 | 150 |
| Nippers nail 5·1/2″ | ,, | 2 | 4 | 8 |
| Pan bed E.I. slipper shaped medium size | ,, | 10 | 40 | 60 |
| Pillow air 18″ | ,, | 12 | 24 | 48 |
| Sheeting waterproof IR thick 44″ wide | Yd. | 200 | 400 | 800 |
| Syringe enema (Higginson) | No. | 6 | 12 | 24 |
| Thermometer bath in cardboard case (To 240°F) | ,, | 2 | 4 | 8 |
| Thermometer clinical (30 second 95°F—110°F) | ,, | 25 | 50 | 100 |
| *Blood Transfusion & Infusion Equipment* | | | | |
| Bottle blood transfusion with screw neck and frosted window complete | No. | 23 | 46 | 92 |
| Cannula blood transfusion 18/10 × 158″ × 1 mm. bore, record mount with stilette | ,, | 10 | 20 | 40 |
| Needle Blood transfusion (Bateman) blunt pointed all sizes | ,, | 3 | 6 | 12 |
| Outfit blood grouping complete | ,, | 1 | 2 | 4 |
| Set Blood and saline giving (UK Hospital pattern) complete | Set | 98 | 196 | 392 |
| Set Blood taking complete | ,, | 13 | 26 | 52 |
| Set plasma giving complete | ,, | 25 | 50 | 100 |
| Stand transfusion metal complete | No. | 2 | 4 | 8 |
| Stand transfusion wooden type 'A'/M/B (folding) | ,, | 4 | 16 | 32 |
| *Physio Therapeutic & Electro-Therapeutic Equipment* | | | | |
| App. Diathermy surgical portable valve type Siemen's Radiotom 612 complete, operable on 230 volts, 50 cycles H.F. output 180 watts. | No. | 1 | 2 | 4 |
| App. Diathermy surgical high capacity valve type Siemen's Radiotom No. 544 complete operable on 230 volts, AC 50 cycles H.F. output 350 watts. | ,, | 1 | 2 | 4 |
| Cable connecting with concentric plugs two core about 3 meters various types | ,, | 1 | 2 | 4 |
| Cartery and light unit AC model complete | ,, | 1 | 2 | 4 |
| Electrodes coagulation hall 1·5 mm. dia. shaft enamelled, all types, each | ,, | 1 | 2 | 4 |
| Electrode needle fine shaft enamelled, all types, each | ,, | 1 | 2 | 4 |
| Foot switch with 80 cables | ,, | 1 | 2 | 4 |
| Electrode indifferent upper arm cuff, all types, each | ,, | 1 | 2 | 4 |
| Handle ceramic with finger tip switch etc. all types, each | ,, | 1 | 2 | 4 |
| Tray E.I. deep size 18″×12″ | ,, | 6 | 12 | 24 |
| Tray E.I. Kidney shaped 10″ | ,, | 14 | 28 | 56 |
| Tray E.I. shallow size 14″×12″, 11″×9″ each | ,, | 2 | 4 | 8 |
| Tube rectal flatus size 18 English Catheter Gauge | ,, | 4 | 8 | 16 |
| Tube stomach India Rubber size 19 length 40″ | ,, | 3 | 6 | 12 |
| Urinal E.I. Male | ,, | 10 | 20 | 40 |

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## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Dispensary Appliances* | | | | |
| Corks pressing machine | No. | 1 | 2 | 4 |
| Funnel E.I. 3 ml., 20 ml., 60 ml., each | ,, | 2 | 4 | 8 |
| Gallipots flat bottomed nest of 4 | Nest | 8 | 16 | 32 |
| Glass measure 500 ml., 200 ml., 100 ml., 50 ml., 5 ml., each | No. | 3 | 6 | 12 |
| Mould suppository 6 hole | ,, | 1 | 2 | 4 |
| Mortar composition 8″, 5 ½″ with pestle, each | ,, | 2 | 3 | 4 |
| Mortar glass 4″ complete | ,, | 2 | 3 | 4 |
| Road glass stirring | ,, | 15 | 30 | 60 |
| Scales counter (to weigh up to 1 kg.) | ,, | 1 | 2 | 4 |
| Scales dispensing pillar with weights complete | ,, | 4 | 8 | 16 |
| Slab ointment graduated or ungraduated 8″ | ,, | 3 | 6 | 12 |
| Spatula bolus 7″ | ,, | 5 | 10 | 20 |
| Spatula spreading (Plaster iron) | ,, | 2 | 4 | 8 |
| Urine and blood test case for complete | ,, | 1 | 2 | 4 |
| *Hygiene Appliances & Chemicals* | | | | |
| Apparatus water testing (Horrocks) complete | No. | 1 | 2 | 4 |
| Case testing water poison complete | ,, | 1 | 2 | 4 |

### AMBULANCE SERVICE DEPARTMENT

| Article<br>1 | A/U<br>2 | Quantity<br>3 |
|---|---|---|
| Ambulance Van (one driver and one first Aider) | No. | 1 |
| Water bottle | ,, | 1 |
| Stretchers | ,, | 4 |
| Ground sheets | ,, | 4 |
| Rubber sheets | ,, | 4 |
| Pillows | ,, | 8 |
| Blankets | ,, | 8 |
| Hot water bottles | ,, | 4 |
| Torch | ,, | 2 |
| *Ambulance satchel containing—* | | |
| Bandage triangular | ,, | 6 |
| Bandages loose wove 2½″ | ,, | 6 |
| Cotton wool 1 oz. | ,, | 6 |
| Dressing first field | ,, | 12 |
| Lint unmedicated 1 oz. | ,, | 6 |
| Safety pins (Large) | ,, | 24 |
| Scissors (7 in. long, 1 blade pointed 1 blade blunt) | ,, | 1 |
| Tourniquet | ,, | 1 |
| Splints, wooden sets | ,, | 1 |
| Clasp knife | ,, | 1 |
| Esmarch bandage, India rubber | ,, | 4 |
| Plaster adhesive, spool | ,, | 2 |

NOTES—1. One ambulance van for hospitals of 10/25/50 beds.
2. Two ambulance vans for hospitals of 100/250 beds.
3. Three ambulance vans for hospitals of 500 beds.

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## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| **OUT-PATIENTS DEPARTMENT** | | |
| *Anaesthetic Appliances* | | |
| outh Gag (Sydenham) adult size | No. | 1 |
| *General Instruments & Appliances* | | |
| Catheter, I.R. size 6,9,12, each | No. | 2 |
| Forceps, artery (Spencer Wells) 5″ | ,, | 4 |
| Forceps, sinus, 7″ | ,, | 1 |
| Forceps, dissecting, plain 5″ | ,, | 1 |
| Forceps, steriliser (Cheatle) | ,, | 1 |
| Gloves, operation, rough | Pair | 2 |
| Knife, B.P. blade No. 11, & 12, Pkt. of 6, each | Pkt. | 2 |
| Knife, B.P. handle | No. | 2 |
| Needle, hypodermic | ,, | 12 |
| Needle, serum | ,, | 4 |
| Needle, suture, cutting half circle triangular pointed, size 9 (medium) packet of 6 | Pkt. | 1 |
| Needle, suture, cutting straight, triangular pointed, large, medium packet of 6 each | ,, | 1 |
| Percussor (Babinski) | No. | 1 |
| Probe, silver, 10″ malleable | ,, | 1 |
| Scissors, shop 7″ | ,, | 1 |
| Scissors, straight, both points blunt, 5″ | ,, | 1 |
| Sphygmomanometer, complete | ,, | 1 |
| Spirit, lamp, nickel plated 2½ oz. | ,, | 1 |
| Steriliser for instruments, portable complete | ,, | 1 |
| Steriliser, steam, high pressure drum shallow, for Stethoscope | ,, | 2 |
| Stethoscope | ,, | 1 |
| Stethoscope, folding, 1½″ with diaphragm double outlet to chest-piece and pressure tubing | ,, | 1 |
| Syringe, hypodermic, 2cc | ,, | 2 |
| Syringe, serum, 10cc | ,, | 1 |
| Syringe, serum 20cc | ,, | 1 |
| Tape, measure linen, 5′ | ,, | 1 |
| Tourniquet, (Samway) complete | ,, | 1 |
| *Ear, Nose Throat Instruments & Appliances* | | |
| Auriscope, electric, complete | No. | 1 |
| Depresser, tongue (lack) large | ,, | 1 |
| Syringe, ear metal | ,, | 1 |
| *Eye Instruments and Appliances* | | |
| Dropper, eye, | No. | 4 |
| Shades, eye double, green latha cloth | Doz. | ½ |
| Shades, eye, single, green latha cloth | ,, | ½ |
| Test, type, distant vision, set of four | Set | 1 |
| Test, type distant vision, 'E' chart for illiterates (Bishop Harman's) | No. | 1 |
| Undine, glass, 4 oz. | ,, | 1 |
| *Fracture and Orthopaedic Equipment* | | |
| Splinting, wire (Cramer) 100 cm. × 10 cm., 60 cm. × 8 cm. | Piece | 6 |
| Splint, knee, (Thomas) 25″ | No. | 1 |
| Splint, knee (Thomas) foot piece for | ,, | 1 |

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## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| *Nursing Appliances* | | |
| Applicator, wool metal, complete | No. | 1 |
| Bag, ice, head, I.R. 7½" | ,, | 1 |
| Bottle, hot water, I.R. 12" × 8" | ,, | 2 |
| Bowl, EM. I. 8" or 10" each | ,, | 4 |
| Box, dressing | ,, | 1 |
| Cup, feeding, E.I. | ,, | 1 |
| Finger, stalls, box of 12 | Box | 1 |
| Pan, bed, E.I., slipper shaped, medium size | No. | 1 |
| Syringe, enema (Higginson) with nozzle | ,, | 1 |
| Thermometer, Clinical (30 second 95°F—110°F) | ,, | 2 |
| Tray, E.I. deep size 18" × 12" | ,, | 1 |
| Tray, E.I. kidney, shaped, 10" | ,, | 2 |
| Tray, E.I. shallow, size 14" × 12", 11" × 9" each | ,, | 1 |
| Tube, stomach, India Rubber, size 19 | ,, | 1 |
| Urinal, E.I. male | ,, | 1 |
| *Dispensary Appliances* | | |
| Funnel, E.I. 2 oz. | No. | 1 |
| Gallipots, flat bottomed, nest of 4 | Nest | 1 |
| Measure, glass 2 oz. | No. | 3 |
| Measure, glass, 1 dr. | ,, | 1 |
| Spatula, bolus, 7" | ,, | 1 |
| *Laboratory Appliances* | | |
| Glass, Urine, conical 8 oz. | No. | 2 |
| Urine and blood, test case, for, complete | ,, | 1 |
| CLINICAL EXAMINATION DEPARTMENT | | |
| *General Instruments and Appliances* | | |
| Forceps dissecting plain 5" | No. | 4 |
| Needle, hypodermic | ,, | 12 |
| Scalpel, 2" | ,, | 2 |
| Syringe Hypodermic 2½cc. | ,, | 2 |
| *Nursing Appliances* | | |
| Bowl, E.I. 4" | No. | 8 |
| Bowl, E.I. 14" | ,, | 4 |
| Tray, E.I. Kindey shaped 10" | ,, | 4 |
| *Dispensary Appliances* | | |
| Mortar composition 5½" with pestle | No. | 1 |
| Mortar glass 4" | ,, | 1 |
| Rod, glass, stirring | ,, | 2 |
| *Laboratory Appliances* | | |
| Albuminometer (Esbach) complete | No. | 2 |
| Bpp. Milk testing centrifuge (Gerber's) complete | ,, | 1 |
| Basket wire for test tubes | ,, | 2 |
| Blood sedimentation rate pipette (Westergren) with stand | ,, | 2 |
| Bottle cedarwood oil | ,, | 2 |
| Bottle media, N.M. 6 oz. | ,, | 24 |
| Bottle media W.M. 1 oz. screw capped | ,, | 48 |
| Cottle white round drop 100 G | ,, | 24 |
| Capsule (Wrights) | ,, | 200 |
| Centrifuge hand complete | ,, | 2 |
| Clip staining for 10 slides | ,, | 1 |
| Clip staining for jar glass | ,, | 1 |

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## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| Comparator Lovibond complete | No. | |
| Forceps bent fine point | ,, | |
| Forceps cover glass (Cornet) | ,, | 2 |
| Glass urine conical 8 oz. | ,, | 48 |
| Haemocytometer (Neubauer) with brightlines complete | ,, | 2 |
| Haemocytometer (Neubauer) glass cover for | ,, | 12 |
| Haemocytometer (Neubauer's) pipette, red cells, for | ,, | 6 |
| Haemoglobinometer Sahli complete in case | ,, | 2 |
| Haemoglobinometer, Sahli pipette, blood spare for | ,, | 2 |
| Haemometer pipette capillary 20 mm. | ,, | 2 |
| Haemocytometer (Neubauer's) pipette white cells for | ,, | 6 |
| Haemoglobinometer Sahli tube graduated for | ,, | 2 |
| Haemometer square comparison tube graduated | ,, | 2 |
| Thermometer 60° C | ,, | 1 |
| Jar glass for slides | ,, | 2 |
| Lamp electric microscope complete | ,, | 2 |
| Lamp, spirit brass 8 oz. | ,, | 4 |
| Lens watchmakers type | ,, | 2 |
| Microscope complete | ,, | 3 |
| Pencils grease assorted colours | ,, | 8 |
| Pipette bulb form 1 ml. 10 ml. | ,, | 2 |
| Slide microscope ordinary 3″ × 1″ | Gross | 4 |
| Trough staining for 5 slides | No. | 2 |
| Tube, swab (West) for throots tube only | ,, | 12 |
| Tube, test 6″ × ⅝″ rimless | Doz. | 12 |
| Tube, test 4″ × ½″ | ,, | 6 |
| Tube, wintrobe with stand | No. | 4 |
| Urinometer | ,, | 2 |
| Wire, Nichrome 23 S.W.G. | ,, | 1 |
| Steriliser "Surqualet" electric AC/DC, 200 to 250 volts | ,, | 1 |
| Centrifuge DC/ACE electric 230 volts, complete | ,, | 1 |
| Haemometer "Erka" with square comparison tube and prismatic fade proof colour plates complete | ,, | 3 |
| Plate, prismatic colour mounted on bakelite stand | ,, | 2 |
| Tube Swab (West) Wires for | ,, | 12 |
| **EAR, NOSE AND THROAT DEPARTMENT** | | |
| Cannula, Tracheotomy, sizes 18, 20, 24, 28 (Fuller), each | No. | 1 |
| Depresser, tongue (Lack) large | ,, | 6 |
| Depresser, tongue (Lack) small | ,, | 3 |
| Forceps, aural dressing, (Hartmann) | ,, | 1 |
| Forceps, nasal dressing (Tilley) | ,, | 1 |
| Forceps, trachea, dilating | ,, | 1 |
| Fork, tuning, Gardiner Browne C 256 | ,, | 1 |
| Klinostic Diagnostic set complete | Set | 2 |
| Tube tracheotomy set of complete | ,, | 1 |
| Syringe ear metal | No. | 4 |
| Depresser, tongue, (Lack) large & Small each | ,, | 1 |
| Lamp, Head, electric, (Jenkins) complete with cords and terminals for accumulator | ,, | 1 |
| Retractor, mastoid, (Mollison) | ,, | 1 |
| Tracheotomey, emergency outfit | ,, | 1 |
| Antrum, diagnostic instruments for (Watson Williams) set of complete | Set | 1 |
| Apparatus, politzerisation (Lennox Browne) complete with 10 oz. reservoir, long tube and nose piece | No. | 1 |
| Apparatus, transillumination, antrum, (Moure's) complete | ,, | 1 |
| Atomiser, nose and throat, complete | ,, | 6 |
| Aural insuffeator, with scoop | ,, | 2 |
| Aural, instruments for Hartmann's set of complete | Set | 1 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| Cannula frontal sinus (Tilley's) silver, with stillette | No. | 2 |
| Cannuala treacheotomy (Dirhams) 32 Fr. gauge | ,, | 2 |
| Catheter, Eustachian (Woake) with stilettes size 5-9 | ,, | 5 |
| Cautery, Galvanee, ENT, complete (Schechis) | ,, | 2 |
| Chisel, Mastoid (Politzer) 4 mm. wide | ,, | 1 |
| Chisel, straight, Labyrinth, (Lake's) | ,, | 1 |
| Curette, Adenoid with cage, 14 mm. cutting edge | ,, | 1 |
| Dissector, Tonsil double ended (Gwynne Evans) | ,, | 1 |
| Forceps Nasal cutting (Lucks) medium 7·5 mm. wide | ,, | 1 |
| Forceps, Adenoid (St. Clair Thomson's ) 18 mm. | ,, | 2 |
| Fork, tuning, standardised, set of 6 complete | Set | 1 |
| Knife, nasal cartilage (Bellanger's) 6 mm. | No. | 1 |
| Mirror, laryngeal, No. 2, boilable | ,, | 1 |
| Mirror, rhinoscopic (St. Clair Thomson's) small (12 mm. diam) | ,, | 2 |
| Probe, aural (Grant) large size | ,, | 6 |
| Probe, aural or nasal (Jobson Horne's) 100 cm. | ,, | 6 |
| Saw, nasal, angular, left | ,, | 1 |
| Saw, nasal, angular, right | ,, | 1 |
| Scissors, turbinectomy (Bakeman's) for middle turbinates | ,, | 4 |
| Scoop (Ballance's) with curette | ,, | 4 |
| Speculum, aural (Brunton's) set of 3, in case | Set | 2 |
| Speculum, nasal (St. Clair Thomson's) 5 cm. | No. | 1 |
| Tonsil, vulsellum , forceps | ,, | |

### EYE DEPARTMENT

#### *Asepetic Furniture*

| 1 | 2 | 3 |
|---|---|---|
| Cabinet instrument 24″×18″×12″ with drop-front cupboards below complete | No. | 3 |
| Stand wash for two basins complete | ,, | 2 |
| Stool adjustable | ,, | 4 |
| Table dressing, ophthalmic complete | ,, | 1 |
| Table instrument 27″×18″ with 2 shelves, complete | ,, | 1 |
| Table operation sponge rubber pads set of 3, for | Set | 1 |
| Table operation ophthalmic | No. | 1 |

#### *General Instruments and Appliances*

| 1 | 2 | 3 |
|---|---|---|
| Battery case with one rheostat empty to take an oblong battery 3-1/8″ × 4″ × 1-1/4″ height with terminals 4″ consisting of 3 × 1·5 volt insert cells | No. | 1 |
| Battery dry, 4·5 volts Type B, Ref 5/J/1573/ RAF (suitable battery with one rheostat) | ,, | 1 |
| Clip towel (Moynihan) 1/1 teeth | ,, | 6 |
| Forceps artery (Halsteads) mosquito | | 3 |
| Forceps artery Spancer Wells' 5″ | ,, | 4 |
| Forceps artery (Wells') straight 3″ | ,, | 4 |
| Forceps dissecting plain 5″ | ,, | 2 |
| Forceps dissecting toothed 7″ | ,, | 1 |
| Forceps sinus 7″ | ,, | 1 |
| Forceps steriliser (Cheatle) | ,, | 2 |
| Gloves operation rough size 6 to 7-1/2 | Pair | 4 |
| Knife B.P. blade all sizes pkt. of 6 each | Pkt. | 1 |
| Knife B.P. handle | No. | 2 |
| Needle hypodermic | ,, | 6 |
| Needle suture cutting full curved triangular pointed size 15 (small) pkt of 6 | Pkt. | 6 |
| Needle suture cutting straight traingular pointed size 10 (medium) pkt. of 6 | ,, | 6 |
| Scalpel 2″ | No. | 3 |
| Scissors shop 7 | ,, | 1 |
| Scissors straight both points blunt 5 | ,, | 1 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| Scissors straight both points sharp 5″ | No. | 1 |
| Spirit lamp nickle plated 2-1/2 oz. | „ | 1 |
| Steriliser for bowls and water electric complete | „ | 1 |
| Steriliser steam high pressure drum deep for | „ | 4 |
| Steriliser steam high pressure drum shallow for | „ | 4 |
| Steriliser for surgical instruments 17″×9-1/4″×4″ electric | „ | 1 |
| Stethoscope folding 1-1/2″ with diaphragm double outlet to chest piece and pressure tubing | „ | 1 |
| Syringe all glass 10 cc. | „ | 1 |
| Syringe hypodermic 2 cc. | „ | 2 |
| Syringe serum 10 cc. | „ | 1 |
| ***Eye Instruments and Appliances*** | | |
| Apparatus ophthalmic diathermy complete | Set | 1 |
| Apparatus ophthalmic diathermy retractor Arruga's | No. | 1 |
| Amblyoscope (Worth-Black) with slide | „ | 1 |
| Axis finder (Maddox's) | „ | 1 |
| Bottle drop 1/2 oz. (Chalk's) | „ | 6 |
| Bottle drop, Ballantyne's set of 6, in case complete | Set | 1 |
| Bracket ophthalmic Vienna model with lamp | No. | 2 |
| Caliper needle point with central screw adjustment | „ | 1 |
| Cautery and light apparatus | „ | 1 |
| Corneal microscope and slit lamp universal (Hamblin) complete with pair of objectives, 1 pair of ocular head and 1 chin rest and transformer | „ | 1 |
| Corneal microscope and slit lamp bulb 12 V, 24 watt. spare for | „ | 2 |
| Corneal microscope and slit lamp table instrument for, with wheel adjustment with castors | „ | 2 |
| Crossed cylinders 0·25 D | „ | 2 |
| Crossed cylinders 0·50 D | „ | 1 |
| Dropper eye | „ | 6 |
| Forceps capsule (Couper's) | „ | 1 |
| Forceps cilia (Bennet's) | „ | 1 |
| Forceps fixation conjuctival (French-Model) 3/4 teeth | „ | 1 |
| Forceps fixation angled (Colley's) | „ | 1 |
| Forceps intracapsular (Elschning's) | „ | 1 |
| Forceps iridectomy (Tranquaire's) | „ | 2 |
| Forceps trachoma (Graddy's) | „ | 1 |
| Frame spectacles measuring device (Newbold) for | „ | 2 |
| Galvano Cantery eye (Lang's) complete | Case | 1 |
| Glasses dark smoked with side pieces pair of (size 58, 60, 62, 64 mm PB) | No. | 12 |
| Goggles diplopia red and green | „ | 6 |
| Headlamp electric with binocular loupe with illumination | „ | 1 |
| Hook strabismus, (Moorfield) pattern | „ | 1 |
| Instruments eye complete | Set | 1 |
| Knife canaliculus (Wobers) | No. | 1 |
| Knife capsulotomy (Ziegler's) 3·5 mm. | „ | 2 |
| Knife cataract (Graefe's) broad | „ | 2 |
| Knife cataract (Graefe's) narrow | „ | 2 |
| Knife iridectomy (Jaeger) curved medium | „ | 1 |
| Knife iridectomy (Ziegler's) 4 mm. | „ | 1 |
| Lamp hand projection simplified form (Listers) with daylight filter, with resistance and transilluminator | „ | 1 |
| Lens condensing 2-1/2″ with wire rim and handle | „ | 2 |
| Lenses trial set of, complete | Set | 2 |
| Loupe corneal monocular × 10 | No. | 2 |
| Loupe corneal binocular prismatic (3 pairs of lenses) | „ | 1 |
| Magnet hand with 4 points for A.C. | „ | 1 |
| Magnet ring (Mellinger's) complete with set of poles resistance and controlling switch | „ | 1 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| Needle broad for evacuation medium | | 1 |
| Needle cataract (Maddox) full curved pkt. of 6 | Pkt. | 1 |
| Needle cataract (Saunder's) with long cutting edge | No. | 2 |
| Needle curved conjuctival spring eyes (Kalt's) extra fine Pkt. of 6 | Pkt. | 6 |
| Needle suture curved in metal handle (Prince's) luminous | No. | 1 |
| Ophthalmoscope luminous (Lister Morton) ward model complete | ,, | 2 |
| Perimeter (Lister's) recording complete | ,, | 1 |
| Perimeter (Lister's) Charts for pad of 50 | ,, | 1 |
| Retinoscope mounted in vulcanite (Priestly-smith's) | ,, | 2 |
| Retractor eyelid (Desmarres') small | ,, | 1 |
| Retractor eyelid (Pellier's) extra small size | ,, | 2 |
| Rod, ointment glass | Doz. | 1/2 |
| Rules graduated in inches and millimetres | No. | 1 |
| Scissors excision curved on flat | ,, | 2 |
| Scissors iris angular (Maunoir's) | ,, | 1 |
| Scissors strabismus blunt pointed | ,, | 2 |
| Screen (B-jerrum's) marked with 2 perimeter rods with 3 mm. and 5 mm. dots | ,, | 1 |
| Screen (B-jerrum's) colours test (Traquair's) set of | Set | 1 |
| Shades eye double green latha cloth | Doz. | 1 |
| Shades eye single green latha cloth | ,, | 1 |
| Speculum (Lang) right | No. | 1 |
| Speculum (Lang) left | ,, | 1 |
| Speculum (Lawfords) left | ,, | 1 |
| Speculum (Smith's) | ,, | 1 |
| Speculum (Lawfords) right | ,, | 1 |
| Spoon for corneal ulcer and tarsal cyst sharp size A, size B, each | ,, | 1 |
| Spoon for corneal ulcer and tarsal cyst sharp sized | ,, | 1 |
| Spud eye | ,, | 1 |
| Stereoscope hand with set of pictures | ,, | 1 |
| Test colour blindness (Ishihara's) | ,, | 1 |
| Test type distant vision set of 4, special to fit revolving drum | ,, | 2 |
| Test type distant vision, 'E' chart, special to fit revolving drum | ,, | 2 |
| Test type distant vision revolving drum with spotlight distant control | ,, | 2 |
| Test type Malingerers moveable red and green letters not illuminated | ,, | 1 |
| Test type reading (Local Language) | ,, | 2 |
| Test type reading (Jaeger's) in wooden frame | ,, | 2 |
| Tonometer (Schiotz) with 3 sliding weights, in case | ,, | 1 |
| Transformer Bell A.C. Main 200/260 volts 3/5/B/VI amp. | ,, | 2 |
| Transformer step down to convert 200 volts A.C. to 2 volts | ,, | 1 |
| Undine glass 4 oz. | ,, | 3 |
| Undine metal (Elliot's) | ,, | 3 |
| Wing test (Maddox's) | ,, | 1 |

### *Ligatures*

| 1 | 2 | 3 |
|---|---|---|
| Silk Mersutures ophthalmic black braided size 0, in carton, full curved size 6 needles (carton of 3 tubes) | Tube | |
| Silk ophthalmic black, medium 2 dr. reel | Reel | 39 |
| Silk ophthalmic white fine 1/2 dr. reel | ,, | [illegible] |
| Silk Suture ophthalmic black plated size 00, tablet of | No. | 15 |
| Silkworm gut unsterilised strong 14" length hank of 50 | Hank | |
| Suture arterial silk black braided size 5/0 on eyeless needle curved 10 mm. | Tube | |
| Suture arterial sterilised iron dyed black silk with straight needle | ,, | 4 |

### *Nursing Appliances*

| 1 | 2 | 3 |
|---|---|---|
| Applicators hardwood 6-1/2" box of 6 | Box | 1 |
| Bowl E.I. 4" 8" 10" each | No. | 4 |
| Clip for tubing | ,, | 2 |
| Jar E.I. circular with cover 4"×4", 8"×8" | ,, | 2 |

| 1 | 2 | 3 |
|---|---|---|
| **Jug measure** E.I. graduated 1 pint | No. | 1 |
| **Sheeting water-proof,** I.R. thin 44″ wide | Yd. | 4 |
| **Thermometer** clinical | No. | 3 |
| **Tray dressing** (Manchester) | ,, | 2 |
| **Tray E.I.** deep size 18″ × 12″ | ,, | 1 |
| **Tray E.I.** kidney shaped 10″ | ,, | 6 |
| **Tray E.I.** shallow size 14″×12″; 11″×9″ each | ,, | 2 |
| ***Optical Appliances*** | | |
| **Tools** opticians set of, in case complete | Set | 1 |
| **ORTHOPAEDIC DEPARTMENT** | | |
| *Drug* | | |
| **Table,** orthopaedic (Watson Jone's British Army modification of) comprised of 12 units | No. | 1 |
| **Gouge, straight,** 7/16″ | ,, | 1 |
| **Gouge,** St. Thomas pattern, with rounded end, all sizes, each | ,, | 4 |
| **Instruments,** bone-plating, (Lane), pattern, in khaki roll complete | ,, | 1 |
| **Instruments,** chiropody, set of complete (Army 1940 pattern) | Set | 1 |
| **Instrument,** electric, operative, (Albee), set of complete | ,, | 2 |
| **Osteotome,** 1-1/2, 1″ | No. | 2 |
| **Osteotome** Mc Ewan's 3/8″, 7/16″, 1/2″ | ,, | 2 |
| **Pliers,** wire cutting with forceps end | ,, | 1 |
| **Apparatus,** Kirschner, drill (Mckelvey) | ,, | 1 |
| **Apparatus,** Kirschner, spanner | ,, | 1 |
| **Apparatus,** Kirschner, Stirrup all sizes, each | ,, | 3 |
| **Apparatus,** Kirschner, Strainer | ,, | 1 |
| **Apparatus,** Kirschner, wires 10″×1-1/2 mm. | Doz. | 6 |
| **Apparatus,** Kirschner, wire, shields with side screws, for | Pair | 18 |
| **Apparatus,** screw traction (Bohler), legs, combined outfit | No. | 1 |
| **Apparatus,** screw traction (Bohler), stirrup, all sizes, each | ,, | 3 |
| **Apparatus,** screw traction (Bohler), pins, (Steinmann) sizes, each | ,, | 15 |
| **Apparatus,** screw-traction (Bohler), handle (Steinmann), pins, introducing for | ,, | 1 |
| **Apparatus,** Smith-Peterson complete | ,, | 1 |
| **Apparatus,** traction, for Tibia (Watson Jone's) nickel plated complete | ,, | 1 |
| **Bags,** sand, empty, with rings and hooks (for extension apparatus) | ,, | 50 |
| **Beam balken,** wooden, standard uprights and long cross-bar (for legs) | ,, | 10 |
| **Bed,** rest, light, detachable | ,, | 10 |
| **Board,** fracture, 37″ × 6″ | ,, | 200 |
| **Buckle,** 2″, 1″ with 2 teeth | Doz | 2 |
| **Calipers** walking, Charnley, set of 4 complete | Set | 4 |
| **Calipers,** walking, Charnley, clamp, ring bending for | No. | 1 |
| **Cradle,** bed, collapsible | ,, | 4 |
| **Crutch,** adjustable | ,, | 20 |
| **Forceps,** plaster, bending | ,, | 2 |
| **Felt,** orthopaedic, 30″×18″×1/4″ thick | Piece | 6 |
| **Frame,** Bradford | No. | 1 |
| **Fulcrum** (Lorenz) | ,, | 1 |
| **Hook,** for stirrup (Kirschner and Bohler) | ,, | 30 |
| **Iron,** walking for incorporation in plaster casts | ,, | 50 |
| **Knife,** plaster (Guy) | ,, | 1 |
| **Saw,** plaster (as Horsley) | ,, | 2 |
| **Shears,** plaster (Bohler) | ,, | 2 |
| **Shears,** plaster (Lorenz) | ,, | 1 |
| **Splinting,** wire (Cramer) 100 cm.×10 cm., 60 cm.×8 cm., each | Piece | 50 |
| **Splinting,** wood (Gooch) 48″×22″ | ,, | 20 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| Splint, femur (Bhler) 4 pulley with fleming's detachable end piece .. | No. | 4 |
| Splint knee, (Thomas) all sizes, each .. .. .. .. | ,, | 3 |
| Splint, knee (Thomas) flexion piece (Pearson), for .. .. .. | ,, | 6 |
| Splint, knee, (Thomas) foot-piece for .. .. .. .. .. .. | ,, | 18 |
| Stick, walking .. .. .. .. .. .. .. | ,, | 25 |
| Stirrup, with lateral pressure pads, to fit femur and leg splints (Braun) .. | ,, | 2 |
| Tape, broad narrow piece of 18 yds. each .. .. .. .. | Piece | 12 |
| Tape, with buckle, for splints .. .. .. .. .. | Doz | 4 |
| Weights, for extension, set of 6, complete with hanger .. .. .. | Set | 5 |
| Wire, soft, iron, annealed 13 gauge, for finger splints .. .. .. | Lb. | 1 |
| Wrench Talipes, (Thomas), with 4" arms, covered with stout rubber, (Nickel plated) .. .. .. .. .. .. .. | No. | 1 |
| **X-RAY DEPARTMENT** | | |
| *Aseptic Furniture* | | |
| Stool adjustable .. .. .. .. .. .. | No. | 1 |
| *General Instruments and Appliances* | | |
| Forceps dissecting plain 5" .. .. .. .. .. .. | ,, | 1 |
| Needle, serum .. .. .. .. .. .. .. | ,, | 8 |
| Scissors shop 7" .. .. .. .. .. .. .. | ,, | 1 |
| Steriliser for instruments portable complete .. .. .. | ,, | 1 |
| Syringe Lipidol injection (Burrell's) 25 cc. with 2 stainless steel needles and cannula in mohogany case complete .. .. .. .. | Set | 1 |
| Syringe, serum 20 cc. .. .. .. .. .. .. | No. | 1 |
| *Nursing Appliances* | | |
| Bag, sand empty, 3 sizes, each .. .. .. .. .. | ,, | 2 |
| Bowl, E.I. 10" .. .. .. .. .. .. | ,, | 1 |
| Irrigator 4 pint with wound pipe and clip complete .. .. .. | ,, | 1 |
| Jug, measure E.I. graduated, 2 sizes, each .. .. .. .. | ,, | 2 |
| Pan bed E.I. slipper shaped medium size .. .. .. .. | ,, | 1 |
| Tray E.I. Kidney shaped 10" .. .. .. .. .. | ,, | 2 |
| Urinal E.I. male .. .. .. .. .. .. | ,, | 1 |
| *Dispensary Appliances* | | |
| Funnel, E.I. 12 oz. .. .. .. .. .. .. | ,, | 1 |
| Measure glass 1 pint .. .. .. .. .. .. | ,, | 1 |
| *X-Ray Equipment and Appliances* | | |
| Apron lead rubber .. .. .. .. .. .. | ,, | 3 |
| Auto-transformer (line voltage adjustment) .. .. .. .. | ,, | As required. |
| Board angle tilting (Head west) .. .. .. .. .. | ,, | 1 |
| Board auxiliary power plug for complete with 10 yds. of cable .. .. | ,, | 1 |
| Box ice for developing tanks .. .. .. .. .. | ,, | 1 |
| Box lead lined for films 12"×18"×22" .. .. .. .. | ,, | 2 |
| Box viewing negative for complete .. .. .. .. .. | ,, | 2 |
| Box viewing negative (Fluorescent circular tubes type for complete) .. | ,, | 2 |
| Box negatives for opalescent screen for .. .. .. .. | ,, | 1 |
| Box viewing negatives for plain glass screen for .. .. .. | ,, | 1 |
| Brackets film hanger for .. .. .. .. .. .. | Pair | 5 |
| Brush camel hair .. .. .. .. .. .. .. | No. | 2 |
| Bulb "Tunger" 15 amperes .. .. .. .. .. .. | ,, | As required. |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| Cabinet all metal 78" high × 36" wide × 19" deep (External dimensions) fitted with four adjustable shelves, for film storage .. .. .. .. | No. | 1 |
| Caliper, patient, thickness .. .. .. .. .. .. .. | ,, | 1 |
| Cassette, all sizes, each .. .. .. .. .. .. .. | ,, | 3 |
| Clip developing 2" .. .. .. .. .. .. .. | Doz. | 3 |
| Clock dark room .. .. .. .. .. .. .. | No. | 1 |
| Converter, rotary 5 K.V.A. 440 volts, D.C. .. .. .. .. | ,, | 1 |
| Converter, rotary starter for .. .. .. .. .. | ,, | 1 |
| Couch radiographic "Solus" pattern complete .. .. .. .. | ,, | 1 |
| Dish developing E.I. 15" × 12" .. .. .. .. .. | ,, | 1 |
| Deviders spring adjustment .. .. .. .. .. .. | ,, | 1 |
| Dynamo generating 'Onan' 3 K.W. Prime mover complete .. .. | (To be decided according to local condition if there is electric supply). | |
| Electro-Cardiograph films mounts for .. .. .. .. | Doz. | 1 |
| Electro-Cardiograph paste tube of 150 G. .. .. .. .. | Tube | 1 |
| Fluoroscope/Theroscope complete .. .. .. .. .. | No. | 1 |
| Glass magnifying, 4" .. .. .. .. .. .. | ,, | 1 |
| Gauge Telescopic Distance for D 3·38 .. .. .. .. | ,, | 1 |
| Gloves lead rubber with guantlets .. .. .. .. .. | Pair | 2 |
| Goggles dark, for screening .. .. .. .. .. .. | ,, | 2 |
| Grid, stationery fine .. .. .. .. .. .. | No. | 1 |
| Hanger, developing, all sizes, each .. .. .. .. .. | ,, | 6 |
| Hanger, developing clip type 15" × 12" .. .. .. .. | ,, | 12 |
| Hanger developing dental .. .. .. .. .. .. | ,, | 2 |
| Heater immersion electric .. .. .. .. .. .. | ,, | 2 |
| Holder, exposure, all sizes, for non screen film, each .. .. .. | ,, | 1 |
| Lamp, dark room complete .. .. .. .. .. .. | ,, | 1 |
| Lamp dark room 8" × 10" safety light filter .. .. .. .. | ,, | 1 |
| Marker figures lead (0 to 9) .. .. .. .. .. .. | Set | 2 |
| Marker negative complete .. .. .. .. .. .. | No. | 1 |
| Mat rubber .. .. .. .. .. .. .. | ,, | 2 |
| Rod stirring vulcanite developing solution .. .. .. .. | ,, | 1 |
| Rod stirring vulcanite fixing solution .. .. .. .. .. | ,, | 1 |
| Rule measuring meter box wood .. .. .. .. .. | ,, | 1 |
| Rule transparent .. .. .. .. .. .. .. | ,, | 1 |
| Screen fluorescent 15" × 12" with protective handles and lead glass .. | ,, | 1 |
| Screen intensifying all sizes, each .. .. .. .. .. | Pair | 2 |
| Screen protective .. .. .. .. .. .. .. | No. | 2 |
| Sheet lead rubber 3' × 2" .. .. .. .. .. .. | Sheet | 1 |
| Sheet lead plywood reinforced, two sizes, each .. .. .. .. | Piece | 2 |
| Spot film device for X-Ray unit K × 12" .. .. .. .. | No. | 1 |
| Stand chest L.P. .. .. .. .. .. .. .. | ,, | 1 |
| Steorneoscope (Wheatstone) complete .. .. .. .. .. | ,, | 1 |
| Tanks developing set of 4 complete .. .. .. .. .. | Set | 1 |
| Thermometer developing .. .. .. .. .. .. | No. | 2 |
| Tonograph attachment for .. .. .. .. .. .. | ,, | 1 |
| Transformer 3 phase to 1 phase double wound air cooled indoor type 15 KVA .. .. .. .. .. .. .. .. | ,, | As required. |
| Transformer 3 phase to 1 phase double wound air cooled indoor type 35 KVA .. .. .. .. .. .. .. .. | ,, | |
| Transformer 3 phase to 1 phase double wound air cooled indoor type 10 KVA .. .. .. .. .. .. .. .. | ,, | |
| Transformer 3 phase to 1 phase double wound air cooled indoor type 15 KVA .. .. .. .. .. .. .. .. | ,, | |
| Transformer stepdown/step up 230/115 ratio 1 KVA capacity .. .. | ,, | Where required. |
| X-Ray Diagnostic unit for 50 beds (50 MA/100 KV) Set .. .. | Set | 1 |
| X-Ray Diagnostic unit for 100 beds (100 MA/100KV) .. .. .. | ,, | 1 |
| X-Ray Diagnostic unit for 250 beds (300 MA/125 KV) .. .. .. | ,, | 1 |
| X-Ray Diagnostic unit for 500 beds (700 MA/125KV) .. .. .. | ,, | 1 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| **Moble bedside diagnostic X-Ray Unit** | Set | 1 |
| **Dental X-Ray Unit** | ,, | 1 |
| **Photoflurographic camera St. hood type** | No. | 1 |

### PAEDIATRICS DEPARTMENT

#### *Aseptic Furniture*

| 1 | 2 | 3 |
|---|---|---|
| Cabinet instrument, overall dimension 160 cm. × 66 mm × 45 cm (63″ × 26″ × 18″) complete | No. | 1 |
| Cabinet instrument, 24″ × 18″ × 12″ with dropfront cupboards below complete | ,, | 1 |
| Cabinet Instrument, 60 cm × 45 cm × 30 cm (24″ × 18″ × 12″) with metal top, bottom sides and glass door front with glass shelves on stand, complete | ,, | 1 |
| Stand instrument Mayo Folding with tray | ,, | 1 |
| Stand for three 9 litres (2 gallon) reservoir jars, complete | ,, | 1 |
| Stand wash, for two basins portable, with folding or jointed legs, complete | ,, | 2 |
| Stool, adjustable with stainless steel top | ,, | 2 |
| Table instruments, 27″ × 18″ with two shelves complete | ,, | 1 |
| Table instrument 68·58 cm × 45·72 cm (27″ × 18″) with two metal shelves complete | ,, | 1 |
| Table, operation | ,, | 1 |
| Table, operation, sponge rubber pads, set of 3 | Set | 1 |
| Table, steriliser, marble-topped 91 mm × 61 cm (36″ × 24″) without wheels, complete | No. | 1 |
| Trolley, patients, complete | ,, | 1 |
| Trolley Ward, 68·58 cm long × 45·72 cm. wide × 81·28 cm. high with two El Bowl 25 cm. complete | ,, | 1 |
| Combination medicine cabinet, table with steel cabinet angular upright posts, two drawers, white oven baked finish stainless steel top, glass front door with bolt lock and two glass shelves. Size of cabinet 30″ × 28″ × 8″ and size of table 30″ × 28″ × 20″ (General Trades Agency, Delhi Cat. No. G-1006) | ,, | 3 |
| Consulting room couch, adjustable head piece and slide tray for instruments, etc. stained and polished wood, teak wood finish, upholstered with rexine in antique brown or green shades, 6′ long, 2′ wide, 2′ 6″ high (As per A & H Cat. No. 46000) | ,, | 1 |
| Stand transfusion complete (Godrej. (HIS-35) | ,, | 2 |
| Swab stands consisting 36 Hooks of stainless Steel with a painted tubular frame with castors and a stainless steel drip with castors tray. (National Steel Equipment Co. E-24) | ,, | 1 |
| Receiver Kick about Soiled dressing (A & H 12558) | ,, | 2 |

#### *Anaesthetic Appliances*

| 1 | 2 | 3 |
|---|---|---|
| Airway, (waters) size infant 1-B with side tube | ,, | 2 |
| Airway, (waters) size 1 with side tube | ,, | 2 |
| Airway, (Guedel) all rubber, with metal insert, (Children's size) | ,, | 3 |
| Apparatus, Nitrous Oxide, Face-Piece, Mount, for | ,, | 2 |
| Apparatus, (Boyle), cylinder, oxygen yoke, for | ,, | 2 |
| Catheter, oral (Magill) endotracheal sizes 00, 0, 1, 2, 3, 4, 5 & 6 each | ,, | 2 |
| Catheter, oral, (Magill), endotracheal, with inflatable cuff tube and pilot bag sizes, 3 and 5 each | ,, | 2 |
| Catheter, oral, (Magill), elbow mount sizes 1, 2, 4, 5 & 6 each | ,, | 1 |
| Drop tube, (Bellamy-Gardner) with cork | ,, | 2 |
| Forceps endotracheal (Magill's) for introducing endotracheal tube, child size | ,, | 1 |
| Inhaler (Schimmelbusch) small size | ,, | 2 |
| Mouth gag (Mason) children size | ,, | 2 |
| Mouth prop and Airway, London Hospital pattern, 1½ cm., 1¼ cm. and 1 cm. bite, set of 3 complete | Set | 1 |
| Spray laryngeal (McIntoch type) | No. | 1 |

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## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| Tube endotracheal 2 (Magill's) vinyl plastic sizes 0, 2, and 5 each | No. | 1 |
| Tube endotracheal armoured with small feed tube sizes 1 and 3 each | ,, | 2 |
| Tube endotracheal armoured stillets for | ,, | 2 |
| Tube nasal soft rubber with flange small size | ,, | 2 |
| Tube endotracheal Cobb Suction union for size 2 | ,, | 2 |
| Tent Oxygen iceless 200/250 volts, 40/60 cycles, AC complete with refrigeration unit (Oxygenater) | ,, | 1 |
| Airway (Guedel) all rubber with metal insert infant size (Air Med Cat. No. 005) | ,, | 3 |
| Apparatus Anaesthetic, facepiece, anti-static with hook ring size 2 (BOC 304272) | ,, | 2 |
| Laryngoscope (RAE Shadwell) infant complete BOC MS 81) | ,, | 2 |
| Laryngoscope (RAE Shadwell) spare bulb for | ,, | 12 |
| Tube Endotracheal (Magill) armoured with small feed tube size 2, (BOC MS 245, MIE 720) | ,, | 2 |
| Catheter Endotracheal (Magill) nasal sizes 2, 3 and 5 (BOC MS 64, MIE 676 and Rusch 1055 ch 23) | ,, | 2 |
| Catheter Endotracheal nasal metal connection sizes 7, 8, 9, 10, 11 each | ,, | 1 |
| Catheter Endotracheal (Magill) oral with inflatable cuff tube and pilot bag sizes 4, 6 each (As in BOCMS 104, MIE 710 and Rusch 1020 ch 25) | ,, | 1 |
| Tube Endotracheal (Magill) Vinyl Plastic sizes 1, 3, 4, 6 (As in BOC MS 403, MIE 680 and Rusch 1008 ch 18 | ,, | 1 |
| Catheter castric Oxygen Bilumen 18" length, English gauge 10 (for new born babies) (Cat. No. 476 of M/s. J.G. Franklin & Sons Ltd., London) | ,, | 4 |
| Facemark polethene Disposable child size (BOC MS 11611) | ,, | 5 |
| *General Instruments and Appliances* | | |
| Apparatus, Oxygen, BLB pattern, nasal mask Bull nose fitting F/A valve with gauge and dry bobbin flowmater | ,, | 2 |
| Oxygen, Cylinder, 20 cu. ft., empty | ,, | 6 |
| Oxygen cylinder, Key lever | ,, | 2 |
| Oxygen, cylinder stand for to hold 20 and 40 cft. cylinders | ,, | 2 |
| Apparatus, Suction Roberts portable 230 volts AC | ,, | 1 |
| Aspiration Unit Double bottle Vaculyser type SV 7, 220/250 volts AC, single circuit complete with pressure rubber tubing and one set of metal suction tube in case | ,, | 1 |
| Catheter, I.R. sizes 3, 6 | ,, | 2 |
| Catheter, metal, size 3 | ,, | 1 |
| Catheter, sterilising, tray | ,, | 1 |
| Catheter, Suction, Endobronchial gum elastic medium size (14 Fr. Gauge) | ,, | 2 |
| Catheter, ureteric, X-ray Opaque, size 4 | ,, | 2 |
| Forceps, artery, (Cairn's), curved, 5½" | ,, | 6 |
| Forceps, artery, (Cairn's), straight, 5½" | ,, | 6 |
| Forceps, artery, "Featherweight" straight screw-joint" | ,, | 6 |
| Forceps, artery (Halstead) mosquito | ,, | 12 |
| Forceps, artery, (Well's), straight, 3" | ,, | 12 |
| Forceps, dissecting, (McIndoe), 6" | ,, | 1 |
| Forceps, sponge holding, with serrated jaws | ,, | 2 |
| Forceps, steriliser (Cheatle's) | ,, | 2 |
| Gloves, operation, bag | ,, | 12 |
| Gloves, operation, rough, sizes 6, 6½, 7 each | Pair | 6 |
| Harelip Traction Bow, (Dennis Browns) stainless steel small | No. | 2 |
| Headlight, "Winchester" | ,, | 2 |
| Hook, blunt | ,, | 2 |
| Hook, sharp | ,, | 2 |
| Hook, skin, (Gillies) | No. | 2 |
| Knife, Bard Parker, blade No. 10, 11, 12 pkt. of 6 | Pkt. | 6 |
| Knife, Bard Parker, handle | No. | 2 |
| Lancet, Vaccinating | ,, | 2 |
| Manometer, spinal, (Adson) complete | ,, | 1 |
| Needle, aneurysm, small size | ,, | 2 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| Needle, exploring, 1·4 mm. diam., (17 S.W.G.) | No. | 2 |
| Needle Gordhs with attachments for transfusion drip, spare rubber diaphragm for | ,, | 6 |
| Needle, hypodermic | ,, | 36 |
| Needle, intradermal, packet of 6 | Pkt. | 6 |
| Needle, serum | No. | 24 |
| Needle, sternum puncture | ,, | 2 |
| Percussor, (Babinski) | ,, | 1 |
| Pins safety, (Mayo) | ,, | 12 |
| Probe and Director (Wheelhouse) | , | 1 |
| Prove, silver, 10″ malleable | ,, | 2 |
| Scissors, (McIndoe) | ,, | 1 |
| Scissors, straight, (Mayo) 7-1/2″ | ,, | 1 |
| Scissors, straight, both points blunt, 5″ | ,, | 1 |
| Scissors, straight, both points sharp, 5″ | ,, | 1 |
| Scissors, surgical, (Kilner) 4-1/2″, curved blunt pointed | ,, | 1 |
| Scissors, surgical, (Kilner) straight | ,, | 1 |
| Spbygnomanometer complete | ,, |  |
| Spirit lamp, brass, with screw cap, 2 oz. | ,, | 2 |
| Steriliser, for bowls and water, electric size 24″×20″×18″ 6000 watts (3×2000 watts) 230 volts, AC, complete | ,, | 1 |
| Steriliser, for bowls and water, complete | ,, | 4 |
| Steriliser, steam, high pressure, drum shallow, for size 4-1/2″×11-1/4″ | ,, | 4 |
| Steriliser, cylindrical working capacity 570 ML electric AC/DC 220-250 volts | ,, | 1 |
| Steriliser, electric for surgical instruments 17″×8″×5-1/2″ (internal) 230 volts, 2000 watts | ,, | 1 |
| Stethoscope "Esler" with bell chest piece | ,, | 1 |
| Syringe all glass 2 cc. | ,, | 12 |
| Syringe all glass 10 cc. | ,, | 4 |
| Syringe all glass 20 cc. | ,, | 3 |
| Syringe, Serum, 20 cc. stopcock 3 way, for | ,, | 2 |
| Syringe Tuberculin, Record 1 cc. Graduated in 1/100ths extra long barrel, two stainless steel needles in metal case complete | ,, | 2 |
| Syringe Tuberculin needle for | Doz | 1 |
| Tape Measure, linen, 5 feet | No. | 2 |
| Tube duodenal (Lavin) four eyes 10 French Gauge (As Rusch 4543) | ,, | 3 |
| Catheter, cylindrical, flexible gum elastic black, sizes 1, 5 English Cathetor Gauge (A & H 36254) | ,, | 1 |
| Catheter, ureter, opaque, Proges', Neoplex, plastic olivary ends in centimeters with two lateral eyes size 6 Benque gauge (GU 722) | ,, | 2 |
| Cystoscope, Double catheterisation irrigation and plain Examination Combination, child, brilliant optical system, catheterizing sheath 17 ch. gauge, examination sheath 14 ch. gauge (A & H 37034) | ,, | 2 |
| Clamp, Intestine crushing, payr's, lever action, blades 4″ (10 cm.) stainless steel (A & H 31198) | ,, | 1 |
| Clamp, forceps, stomach Moynihan's for gastroenterostomy, blades 4½″ (10·65 cm.) screw joint Stainless Steel 11″ (27·5 cm.) (A & H Cat. No. 31216) | ,, | 2 |
| Needle, spinal (Howard Jones), Luer fitting, with stillete, 20 standard wire gauge 2½″ (6·25 cm.) long, stainless steel (A & H 44092) | ,, | 4 |
| Lamp hand torch 5 cells | ,, | 2 |
| Speculum Rectal Proctoscope children's 7·5 cm.×3/8″ (Down 1442/C) | ,, | 1 |
| Sigmoidoscope, small size for children (As in A & H 33202) | ,, | 1 |
| Trocar, southey's ascites, capillary drainage adjustable Stainless Steel trocar, four silver cannulae, silver shield, two yds. of tubing (As in A & H 16950) | ,, | 2 |
| Syringe self-filling, Eye's with light spring to withdraw Piston luer cone (As Down 384/C) | ,, | 2 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| *Ear, Nose and Throat Instruments and Appliances* | | |
| Atomiser, nose and throat, complete | No. | 2 |
| Cannuala, tracheotomy, Silver Plated (Fuller's) 18 Fr. gauge | ,, | 1 |
| Carrier, wool Logan Turner's | ,, | 2 |
| Depressor, tongue, (Lack's) small 1·25 cm. wide | ,, | 2 |
| Diagnostic set ENT complete | Set | 1 |
| Forceps, Aural dressing, (Hartmann's) | No. | 2 |
| Forceps, Nasal Dressing (Tilley's) | ,, | 1 |
| Forceps, Peritonsillar (St. Clair Thomson's) | ,, | 1 |
| Fork, Tuning (Gardiner Browne), C 256 Vibrations per second | ,, | 1 |
| Forceps, trachea, dilating (St. Clair Thomson's) | ,, | 1 |
| Probe, Aural metal, malleable, threaded at both ends 18 cm | ,, | 1 |
| Probe, Aural (Grant), large size | ,, | 1 |
| Probe, Aural or Nasal (Jobson Horne's) 10 cm. | ,, | 1 |
| Retractor, Flat, for upper lip, (Hajek's) | ,, | 1 |
| Speculum, Nasal (Thudicum's) smallest | ,, | 1 |
| Syringe, ear, metal 114 ml. with wide nozzle | ,, | 1 |
| Tracheotomy, Emergency outfit | Set | 1 |
| Tube, tracheotomy, set of, complete | ,, | 1 |
| Bronchoscope Aspirating Negus', children size 30 cm. length with spare lamp carrier and lamp (Down 641/H) | No. | 1 |
| Oesophagoscopes Lynah's children size 14×9 mm., 18 cm. long with spare lamp carrier and lamp and conducting cords (Down 681/B) | ,, | 1 |
| Spare lamp, shadowless (Down 639/C) | ,, | 6 |
| *Eye Instruments and Appliances* | | |
| Dropper, eye | ,, | 20 |
| Forceps, cillia, straight | ,, | 1 |
| Lens, condensing, 76 mm. (3″) + 13·0 Dioptres deep metal rim | ,, | 1 |
| Loupe, corneal, monocular, ×10 | ,, | 1 |
| Loupe, corneal binocular patent × 2¼ large field of view tip-up | ,, | 1 |
| Ophthalmoscope, luminous (Lister Morton) ward model, complete | ,, | 1 |
| Probes, Lachrymal, (Bulbous) double (Bowman's) set of 4 | Set | 1 |
| Retractor, eyelid, double (Polier's), extra small size | No. | 2 |
| Rod, ointment, glass | ,, | 4 |
| Shades, eye, double, green, latha cloth | ,, | 12 |
| Shades, eye, single, green, latha cloth | ,, | 12 |
| Spatula, entropion, (MacCallan's) | ,, | 2 |
| Syringes, lachrymal, complete | ,, | 1 |
| Undine, glass, 120 ml. (4 ozs.) | ,, | 4 |
| *Fracture and Orthopaedic Equipment* | | |
| Beam, Balkan, wooden, Standard upright and long cross-bar (for legs), (nopulleys) | ,, | 2 |
| Bed rest, light, detachable | ,, | 6 |
| Board, Fracture, 37″×6″ | ,, | 20 |
| Cord, stout, for extension apparatus | Metre | 44 |
| Cord, thin, for extension apparatus | ,, | 44 |
| Cradle, Bed, collapsible | No. | 4 |
| Crutch, adjustable complete with ferrule rubber | ,, | 4 |
| Frame, Bradford | ,, | 1 |
| Pulley, for Balkan Beam | ,, | 24 |
| Splint, knee, (Thomas), 21″ | ,, | 1 |
| Splint, knee, (Thomas) Flexion Piece (Pearson) | ,, | 1 |
| Splint, knee, (Thomas), footpiece | ,, | 2 |
| Stick, walking | ,, | 6 |
| Tape, broad, narrow, each, piece of 18 yds. | Piece | 6 |
| Tape, with buckle, for splints | Doz. | 2 |
| Webbing, 2″ wide | Metre | 18 |

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## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| Webbing, 1″ wide | Metre | 18 |
| Weights for extension, set of 6, complete with hanger | Set | 3 |
| Wire, soft iron, annealed, 13 gauge, for finger splints (1 lb.—Approximately 4½ yds.) | Kg. | 1 |
| Wrench Talipes, (Thomas), with 4″ arms, covered with stout rubber, (nickel plated) | No. | 1 |
| Denis Brown's Splints for Talipes small, medium sizes (A & H 42085) | ,, | 3 |
| Frame Traction child Stryker's Duel purpose (V. Mueller BX-2200) | ,, | 1 |
| Splint, knee, children | ,, | 1 |
| Frame Abduction hip | ,, | 1 |
| *Gynaecological and Obstetric Equipment* | | |
| Speculum Vaginal Cusco's solid blades and folding handles chromium plated extra small 5/8″ (1·55 cm.) (As A & H 34388) | ,, | 1 |
| Incubator, Premature Baby's, mounted on a trolley (National Steel Equipment Co.) | ,, | 2 |
| *Nursing Appliances* | | |
| Bag, ice, head, I.R. 20 cm. (8″) | ,, | 6 |
| Bottle, hot water, I.R. 30 cm. × 20 cm. (12″ × 3″) with two spare washers | ,, | 6 |
| Bowl, E.I., all sizes, each | ,, | 2 |
| Box dressing | ,, | 1 |
| Box, for needles | ,, | 2 |
| Breast-pump, complete | ,, | 1 |
| Clip, for tubing | ,, | 6 |
| Cup, feeding, earthenware 10 cm. (4″) | ,, | 10 |
| Irrigators, 2 litres (4 pint) wish wound pipe and clip, complete | ,, | 1 |
| Jaconet 110 cm. (44″) wide | Metre | 44 |
| Jar, E. I. circular, with cover, large, small | No. | 1 |
| Jug, measure, E.I., graduated, large, small | ,, | 1 |
| Masks, operation, Nurses | ,, | 50 |
| Nippers, nail 15 cm. (5½″) | ,, | 1 |
| Pen, maping | ,, | 1 |
| Scales, baby weighing, complete | ,, | 2 |
| Sheeting, waterproof, thick 110 cm. wide | Metre | 44 |
| Sheeting, waterproof, thin 100 cm. wide | ,, | 44 |
| Syringe, enema (Higginson) | No. | 1 |
| Syringe, glycerine, 30 ml (1 oz) | ,, | 2 |
| Thermometer, bath, in cardboard case (240°F.) | ,, | 1 |
| Thermometer, clinical, 30 second, 95°F—110° F) | ,, | 10 |
| Tray dressing (Manchester) | ,, | 2 |
| Tray, E.I., deep, shallow, each | ,, | 1 |
| Tray, instrument, with rack (Folker) Porcelain | ,, | 2 |
| Urinal, E. I. Male | No. | 10 |
| Kettle, bronchitis, 6 pints | ,, | 2 |
| Pillow air children size | ,, | 2 |
| Tray Kidney shaped E.I., white 6″ (A&H 54242) | ,, | 4 |
| Tube rectal, flatus rubber size 7 English catheter gauge, 3″ long (A & H 54014) | ,, | 4 |
| Thermometer, Clinical, rectal large bulb, magnifying lens front, 1 minute (95°F.—110°F.) (A & H 54340) | ,, | 2 |
| Thermometer, clinical, sub-normal magnifying lens front ½ minute, from 90°F. to 110°F. (A & H 54336) | ,, | 2 |
| Tubes feeding expendable smooth plastic infant 15″ long, 8 F-with red flexible connector (V. Mueller & Co., Chicago RG. 355-A) | ,, | 2 |
| Tubes feeding expendable smooth plastic premature infant 15″ long, 5 F with red flexible connector (V. Mueller & Co., Chicago, RG-355-B) | ,, | 8 |
| Scales counter semi self indicating, capacity 1 kg. (Avery 1006) | ,, | 1 |
| Scales counter weights for complete | Set | 1 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| Scales counter, semi self indicating, capacity ½ kg. (Avery 1006) | No. | 1 |
| Scales counter weights for, complete | Set | 1 |
| Pan, bed, circular, E.I., 8″ diameter, with cover (As A&H 53060) | No. | 2 |
| Inflantometer (A.I.I.M.S. pattern) | ,, | 1 |
| *Dispensary Appliances* | | |
| Funnel E.I., large, small each | ,, | 2 |
| Gallipots flat bottomed, nest of 4 | Nest | 2 |
| Measure glass all sizes each | No. | 1 |
| *Laboratory Appliances* | | |
| Glass, urine, conicals, 8 oz. | ,, | 4 |
| Tube, swab, (West), for throats, tube only | ,, | 10 |
| Tube, swab, (West), wires for | ,, | 20 |
| *X-Ray Apparatus and Appliances* | | |
| Box viewing, negative (Fluorescent circular tube type), for complete | No. | 1 |
| *Blood Transfusion and Infusion Equipment* | | |
| Cannula transfusion, Hamilton Baily's luer fitting crank bend with two lateral holes, gold plated, Extra small, for babies (A&H 16650) | ,, | 4 |
| Cannula transfusion, Hamilton Bailey's Record fitting, crank bend, with two lateral holes, gold plated, small for children (A&H 16651) | ,, | 4 |
| Needle transfusion, bone narrow, janet Gimson's set of 4 with handle and tubing mounts (A&H 16492) | Set | 2 |
| Syringe Transfusion, all glass with side branch, Luer fitting, eccentric nozzle, 2 cc. (Luer-Kaufmann) (A&H 16488) | No. | 2 |
| VENEREOLOGICAL DEPARTMENT | | |
| *Aseptic Furniture* | | |
| Cabinet, instrument, 24″ × 18″ × 12″ with drop front cup board, below complete | No. | 2 |
| Table, operation, folding | ,, | 2 |
| *Anaesthetic Apparatus* | | |
| rway, (Hewitt), aluminium and rubber, large | ,, | 1 |
| irway, (Hewitt), aluminium and rubber small | ,, | 1 |
| Forceps, tongue | ,, | 1 |
| Inhaler, (Schimmelbusch), large size | ,, | 1 |
| Mouth Gag, (Sydenham), adult size | ,, | 1 |
| Battery, case, with one rheostat, empty (to take on oblong battery 3-1/8″ × 4″ × 1¼″ height with terminals 4″ consisting of 3 × 1·5 volt inert cells) | ,, | 1 |
| Battery, dry, 4·5 volts (Suitable for battery with one Rheostat) | ,, | 1 |
| Bougies, Fillioform, set of 3 | Set | 1 |
| Bougies, urethral, (Lister) set of complete | ,, | 1 |
| Bougies, urethral cluttons set of 12 in metal case complete | ,, | 1 |
| Bougies, urethral powell set of 12 complete | ,, | 1 |
| Catheter, I.R., sizes, each | No. | 1 |
| Catheter, metal, size 3, 10 each | ,, | 1 |
| Clip, towel, cross-section | ,, | 4 |
| Forceps, artery, (Spencer Well) 5″, 8″ each | ,, | 6 |
| Forceps, dissecting, plain, 5″ | ,, | 2 |
| Forceps, sinus, 7″ | ,, | 3 |
| Forceps, sterilizer (Cheatle) | ,, | 2 |
| Forceps, tissue, (Lane) 6″ | ,, | 2 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| Fork tuning, for vibrating sensation | No. | 1 |
| Gloves, operation, rough | Pair | 12 |
| Knife, B.P. blade packet of 6 | Pkt. | 2 |
| Knife, B. P. handle | No. | 2 |
| Needle, hypodermic | ,, | 6 |
| Needle, intravenous, (Weintraud) with adaptor | ,, | 12 |
| Needle, serum | ,, | 48 |
| Needle, spinal (Howard Jonees) | ,, | 10 |
| Needle Spinal guide (Size) stainless steel | ,, | 10 |
| Needle suture cutting full curved triangular pointed sizes 9, (Medium) Pkt. of 6, 10, 15 | Pkt. | 1 |
| Percussor (Babinski) | No. | 1 |
| Probe, silver 10″ malleable | ,, | 2 |
| Scissors, straight both points blunt 5″ | ,, | 2 |
| Scissors, straight both points sharp 5″ | ,, | 1 |
| Soop oval double-ended | ,, | 1 |
| Sphygmomanometer, complete | ,, | 1 |
| Steriliser steam (Schimmelbusch) with spirit lamp and 4 kettles, 20″ × 8″ | ,, | 1 |
| Steriliser electric surgical instruments 17″ × 8″ × 5½″ internal, 230 volts, 200 W | ,, | 1 |
| Stethoscope folding 1½″ with diaphragm double outlet to chest piece and pressure tubing | ,, | 1 |
| Syringe all glass 2 cc. | ,, | 2 |
| Syringe, hypodermic, 2 cc. | ,, | 2 |
| Syringe Serum 10 cc. | ,, | 6 |
| Syringe, serum 20 cc. | ,, | 4 |
| Urethoscope (Harrison) complete | ,, | 1 |
| *Ear, Nose and Throat Instruments and Appliances* | | |
| Battery case, 4 volts for light 20 amp. for cautery complete with 2 Rheostats and glass accumulators (4 volt, 2 cells, 40 A.H.) | No. | 1 |
| Cautery, complete | ,, | 1 |
| Depressor tongue (Lack) large | ,, | 1 |
| Klinostic diagnostic set complete | Set | 1 |
| *Eye Instruments and Appliances* | | |
| Lens, condensing 2″ with wire rim and handle | No. | 1 |
| *Post-Mortem Instruments and Appliances* | | |
| Gloves rubber thick size 8, pair of | Pair | 2 |
| *Nursing Appliances* | | |
| Finger stalls box of 12 | Box | 12 |
| Holder caustic | No. | 1 |
| Irrigator 4 pint with wound pipe and clip complete | ,, | 2 |
| Jar, E. I. 2 gallon reservoir for lotion complete | ,, | 1 |
| Thermometer bath in card board case (240°F) | ,, | 1 |
| Tray, E.I. Deep, shallow, each | ,, | 6 |
| Tray, E. I. kidney shaped 10″ | ,, | 3 |
| Tube urethral irrigation (Janet) metal | ,, | 2 |
| *Dispensary Appliances* | | |
| Gallipots flat bottomed nest of 4 | Nest | 2 |
| Measure glass 4 oz. | No. | 2 |

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## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| *Laboratory Applianses* | | |
| Bottle, cedar-wood oil | No. | 1 |
| Centrifuge hand complete | ,, | 1 |
| Timber internal clock work mechanism (Kodak) 60 minutes duration in ½ minute intervals | ,, | 1 |
| Forceps cover-glass (Cornet) | ,, | 1 |
| Glass cover microscope ¾″ square, 1/250″ thick for dark ground work, pkt. of ½ oz. | Pkt. | 1 |
| Glass urine, conical 8 oz. | No. | 10 |
| Haemocytometer (Neubauer) with bright lines complete | ,, | 1 |
| Hæmoglobinometer Sahli complete | ,, | 1 |
| Lamp electric Microscope complete | ,, | 1 |
| Lamp electric microscope for dark ground illumination complete | ,, | 1 |
| Microscope complete | ,, | 1 |
| Microscope for dark ground work complete | ,, | 1 |
| Pipette, 0·2 ml., graduated in 1/1,000 ml. to outlet | ,, | 4 |
| Slide microscope thin for dark ground work | Gross | 1 |
| Trough staining for 5 slides | No. | 1 |
| Tube test 6″ × ¾″ rimless | Doz. | 1 |
| Urine test case for complete | No. | 1 |
| Thermometer maximum and minimum (Six) | ,, | 1 |
| Thermometer, maximum and minimum (Six) magnet for | ,, | 1 |
| DERMATOLOGICAL DEPARTMEMT | | |
| *Aseptic Furniture* | | |
| Cabinet, instrument, 24″ × 18″ × 12″ with dropfront cupboards below, complete | No. | 1 |
| *Anaesthetic Appliances* | | |
| Cylinder carbon dioxide 4 lbs. empty | ,, | 1 |
| *General Instruments and Appliances* | | |
| Comedone Extractor, Unna's, stainless steel | ,, | 1 |
| Curette, Epithelial (Harrison's) | ,, | 1 |
| Forceps, artery, (Spencer Well's ) 5″ | ,, | 6 |
| Forceps, dissecting, Plain, 5″ | ,, | 1 |
| Forceps, epilating | ,, | 1 |
| Forceps, sinus, 7″ | ,, | 2 |
| Forceps, steriliser, (Cheatle) | ,, | 2 |
| Knife, B. P. blade packet of 6 | Pkt. | 6 |
| Knife, B. P. handle | No. | 1 |
| Needle, Intradermal packet of 6 | Pkt. | 1 |
| Needle, intravenous (Weintraud) with adaptor | No. | 12 |
| Needle, serum | ,, | 48 |
| Needle, suture, cutting, full curved triangular pointed, sizes 9, 15, each, packet of 6 | Pkt. | 1 |
| Needle, suture. cutting, straight, triangular pointed, size 10 (Medium ) packet of 6 | ,, | 1 |
| Scissors, straight, both points, blunt 5″ | No. | 2 |
| Scissors, straight, both points sharp, 5″ | ,, | 1 |
| Scoop, oval, double, ended | ,, | 1 |
| Snow, carbon dioxide, mould ¼″ | ,, | 1 |
| Snow, Carbon dioxide, mould ½″ | ,, | 1 |
| Steriliser, steam, high pressure, drum shallow for | ,, | 1 |
| Steriliser, steam, (Schimmelbusch) with spirit lamp and 4 Kettles 20″ × 8″ | ,, | 1 |
| Syringe, hypodermic, 2 cc. | ,, | 2 |
| Syringe, serum, 10 cc. | ,, | 4 |
| Cautery, complete | ,, | 1 |
| Depressor, tongue, (Lack), large | ,, | 1 |
| Scoop, (Ballance) with curette | ,, | 1 |
| Lens condensing, 3″ deep metal rim | ,, | 1 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| *Nursing Appliances* | | |
| Tray, E.I., deep, size 18″×12″ | No. | 2 |
| Tray, E.I., kidney shaped, 10″ | ,, | 3 |
| Tray, E. I. shallow, size 14″×12″ | ,, | 2 |
| *Dispensary Appliances* | | |
| Gallipots, flat bottomed, nest of 4 | Nest | 2 |
| Glass filter wood's | No. | 2 |
| MEDICAL EQUIPMENT FOR HOSPITAL LABORATORIES | | |
| *General Instruments* | | |
| Forceps artery (Spencer Well's) 5″ | No. | 2 |
| Forceps dissecting plain 5″ | ,, | 6 |
| Forceps dissecting plain 7″ | ,, | 1 |
| Forceps steriliser (Cheatle) | ,, | 1 |
| Gloves operation rough size 6½ pair of | Pair | 2 |
| Gloves operation rough size 7½ pair of | ,, | 2 |
| Hone Turkey | No. | 1 |
| Knife, B. P. blade all sizes, pkt. of 6 | Pkt. | 2 |
| Knife, B. P. handle | No. | 1 |
| Needle hypodermic | ,, | 24 |
| Needle serum | ,, | 12 |
| Needle suture cutting straight triangular pointed size 2, (large) packet of 6 | Pkt. | 2 |
| Needle suture round bodied half circle medium, pkt. of 6, each | ,, | 1 |
| Scalpel 2″ | No. | 4 |
| Scissors shop 7″ | ,, | 1 |
| Scissors straight both points blunt 5 inches | ,, | 2 |
| Scissors straight both points sharp 5 inches | ,, | 1 |
| Steriliser steam high pressure drum deep for | ,, | 1 |
| Steriliser steam high pressure drum shallow for | ,, | 1 |
| Steriliser steam high pressure stove "Primus" with 4 burners for | ,, | 1 |
| Steriliser "Surqalet" electric | ,, | 1 |
| Steriliser for surgical instruments 17″×9¼″×4″ electric | ,, | 1 |
| Stone slip (Arkansas 9″ in case) | ,, | 1 |
| Stove 'Primus' with 4 burners spare burner for | ,, | 6 |
| Strop leather | ,, | 1 |
| Syringe hypodermic 2 cc. | ,, | 2 |
| Syringe serum 10 cc. | ,, | 2 |
| Syringe serum 10 cc. with eccentric nozzle | ,, | 1 |
| Syringe serum 20 cc. | ,, | 1 |
| Syringe serum 20 cc. with eccentric | ,, | 1 |
| Tape measure linen 5 ft. | ,, | 1 |
| Tubing drainage 3/16″ | Yd. | 18 |
| Tubing drainage 5/16″ | ,, | 18 |
| Tubing drainage 3/8″ | ,, | 12 |
| Tube duodenal (Ryle) | ,, | 1 |
| Tubing I. R. 5/32″ | ,, | 18 |
| Tubing pressure medium | ,, | 2 |
| *E. N. T. Instruments and Appliances* | | |
| Depressor tongue (Lack) small | No. | 1 |
| *Eye Instruments and Appliances* | | |
| Forceps dissecting fine | ,, | 1 |
| *Dental Instruments, Appliances and Materials* | | |
| Plateboiling electric complete | ,, | 1 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| *Post-Mortem Instruments and Appliances* | | |
| Instruments Post-Mortem set of complete | Set | 1 |
| Gloves rubber thick size 8, pair of | Pair | 2 |
| Hooks set 13 | No. | 1 |
| Viscerotom | ,, | 1 |
| *Nursing Appliances* | | |
| Bowl E. I. all sizes, each | ,, | 2 |
| Box dressing | ,, | 1 |
| Clip for tubing | ,, | 6 |
| Jar E. I. circular, small, large, 4″×4″ | ,, | 2 |
| Pan bed E. I. slipper shaped medium size | ,, | 1 |
| Sheeting waterproof I. R. thick 44″ wide | Yd. | 4 |
| Thermometer clinical | No. | 1 |
| Tray E. I. deep, shallow, each | ,, | 1 |
| Tray E. I. kidney shaped 10″ | ,, | 4 |
| Urinal E. I. male | ,, | 1 |
| *Dispensary Appliances* | | |
| Corks phial size (9 assorted sizes for bottles up to 12 oz.) | Doz. | 4 |
| Corks pint size (for 1 lb. 2 lbs., and beer bottles) | ,, | 4 |
| Corks quart size (for 4 lbs. bottles) | ,, | 4 |
| Corks (W. M. (7 assorted sizes for all W. M. bottles) | ,, | 4 |
| Corks pressing machine | No. | 1 |
| Funnel E. I., small, large, each | ,, | 2 |
| Measure glass 1 pt. | ,, | 1 |
| Mortar composition 8″, 5½″ each | ,, | 1 |
| Mortar glass 4″ | ,, | 2 |
| Rod glass stirring | ,, | 2 |
| Scales counter | ,, | 1 |
| Slab ointment graduated | ,, | 1 |
| Seatula Bolus 7″ | ,, | 1 |
| Still 1/2 gallon metal | ,, | 1 |
| Stopper Loosener | ,, | 1 |
| *Laboratory Appliances* | | |
| Aerogen gas plant large complete or Burshane | ,, | 1 |
| Agglutination pipette (Dreyer) | ,, | 6 |
| Agglutination tube (Dreyer) conical | ,, | 432 |
| Agglutination tube (Dreyer) dilution | ,, | 72 |
| Agglutination tube (Dreyer) comparator | ,, | 1 |
| Agglutination tubes (Dreyer) comparator striplight for | ,, | 1 |
| Agglutination tube (Dreyer) stand for | ,, | 12 |
| Agglutination tube (Felix) 2″×¼″ | ,, | 288 |
| Agglutination tube (Felix) rack for | ,, | 6 |
| Albuminometer (Esbach's) complete | ,, | 3 |
| Apparatus anaerobic (McIntosh and Fildes) glass Jar for | ,, | 1 |
| Apparatus anaerobic (McIntosh and Fildes) | ,, | 1 |
| Apparatus anaerobic (McIntosh and Fildes) Resistance for | ,, | 1 |
| Apparatus distilling all glass capacity 1 litre with ground glass joints with accessories complete | ,, | 1 |
| Apparatus milk testing centrifuge (Gerber) complete | ,, | 1 |
| Autoclave portable (American Pattern complete with gasoline stove) (Type AN 5) | ,, | 1 |
| Autoclave (Chamberland) size 3 complete | ,, | 1 |
| Automatic Heatley cups setter | ,, | 1 |
| Balance (Baranger) 1 kilo, with weights | ,, | 1 |
| Basket wire for test tubes | ,, | 12 |
| Bath embedding complete | ,, | 1 |
| Bath water agglutination for 8 stands (Dreyer) agglutination | ,, | 2 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| Bath water for 2 racks for oil heating complete | No. | 1 |
| Bath, water, capsule 37 degrees centigrade for | ,, | 1 |
| Blood sedimentation rate pipette, (Westergreen) | ,, | 6 |
| Blood sedimentation rate stands for 6 pipettes (Westergreen) | ,, | 1 |
| Bottle 'Bijou' 2 drachm metal screw capped with rubber linear complete (For concentrated agglutinable emulsions and stock media) | ,, | 40 |
| Bottle cedarwood oil | ,, | 3 |
| Bottle extra wide mouth for specimens 175 cc. | ,, | 6 |
| Bottle extra wide month for specimens 60 cc. | ,, | 6 |
| Bottle glass amber 25 cc. with screw cap and special cork liner covered with tin foil complete (for Kahn antigen) | ,, | 50 |
| Bottles glass 25 cc. with screw cap and rubber liner complete (for large scale production of agglutinable Suspension) | ,, | 12 |
| Bottle glass flat 20 ozs. screw cap rubber liner for | ,, | 24 |
| Bottle glass round N. M. 20 ozs. screw capped | ,, | 24 |
| Bottle media, N. M. 6 ozs. | ,, | 144 |
| Bottle media W. M. 1 oz. screw capped | ,, | 144 |
| Bottle vaccine 10 ml. amber | ,, | 24 |
| Bottle white round drop 100 G. | ,, | 30 |
| Brush Camel hair medium | ,, | 4 |
| Burette Micro 2 ml. | ,, | 1 |
| Burette Micro 5 ml. with stopcock | ,, | 1 |
| Capsule (Wright) | ,, | 500 |
| Capsule (Wright) straight | ,, | 500 |
| Centrifuge hand complete | ,, | 1 |
| Centrifuge tube for plain | ,, | 6 |
| Centrifuge DC/AC electric 200 volts complete | ,, | 1 |
| Stop watch | ,, | 1 |
| Comparator (Cole and Onslow) for 6 tubes | ,, | 1 |
| Comparator standard tubes in case set of, for | Set | 1 |
| Comparator Lovibond complete | No. | 1 |
| Corks I. R. large, assorted | ,, | 50 |
| Counting chamber "Fuchs Rosenthal" | ,, | 1 |
| Diamond glass writing | ,, | 1 |
| Dishes Petri, sterilising box for | ,, | 1 |
| Flask boiling flat bottom 3,000 ml. | ,, | 1 |
| Flask boiling flat bottom 5 litres | ,, | 1 |
| Flask conical 1,000 ml | ,, | 4 |
| Flask filtering stout glass with side tube 500 ml. | ,, | 4 |
| Flask Volumetric 100 ml., 250 ml., 500 ml., 1,000 ml. | ,, | 4 |
| Filter seitz 6 cm. | ,, | 1 |
| Filter seitz 6 cm. pads for | ,, | 12 |
| Fluorometer | ,, | 1 |
| Forceps bent fine point | ,, | 1 |
| Forceps cover-glass (Cornet) | ,, | 2 |
| Gauge (Starrett) for pipettes Nos. 1 to 60 | ,, | 1 |
| Glass cover microscopes 3/4" square 1/250" thick for dark ground work packet of ½ oz. | Pkt. | 2 |
| Glass urine conical 8 ozs. | No. | 12 |
| Haemocytometer (Neubauer's) with bright lines, complete | ,, | 2 |
| Haemocytometer (Neubauer's) counting chamber double ruling for | ,, | 1 |
| Haemocytometer (Neubauer's) glass cover for | ,, | 12 |
| Haemocytometer (Neubauer's) pipette red cells for | ,, | 4 |
| Haemocytometer (Neubauer's) pipette white cells for | ,, | 4 |
| Haemoglobinometer Sahli complete in case | ,, | 1 |
| Haemoglobinometer Sahli pipette, blood spare for | ,, | 2 |
| Haemoglobinometer Sahli tube graduated for | ,, | 1 |
| Heatley cups | ,, | 50 |
| Incubater complete | ,, | 2 |
| Thermometer 60°C | ,, | 1 |
| Inspissator for 25 tubes electrically heated complete | ,, | 1 |
| Jar glass for slides | ,, | 2 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| Jar Kilner 1 lb. | No. | 6 |
| Jar specimen sizes, each | ,, | 5 |
| Jar staining 6″×1½″ with round glass stopper | ,, | 4 |
| Lactometer 0·40 with immersion cylinder in case | ,, | 1 |
| Lactometer trial glass for | ,, | 1 |
| Lamp electric microscope complete | ,, | 2 |
| Lamp electric microscope for dark ground illumination complete | ,, | 1 |
| Lamp spirit brass 3 ozs. | ,, | 3 |
| Lens watchmaker's type | ,, | 2 |
| Lifter Section | ,, | 2 |
| Microscope complete | ,, | 3 |
| Microscope for dark ground work complete | ,, | 1 |
| Microscope Binocular complete | ,, | 1 |
| Microtome Rocking | ,, | 1 |
| Microtome for knives | ,, | 6 |
| Mould 'L' shaped for paraffin wax | ,, | 2 |
| Pipettes 0·2 ml. graduated in 1/1000 ml. to outlet | ,, | 2 |
| Pipette 0·25 cc. graduated in 0·0125 cc. | ,, | 2 |
| Pipette 10 ml. graduated in 1/10 ml. to outlet | ,, | 12 |
| Pipette box sterilising for | ,, | 1 |
| Pipette bulb form 1 ml., 3 ml., 4 ml., 11 ml., each | ,, | 2 |
| Pipette 'Kimble' glass 5 ml., 25 ml. each | ,, | 2 |
| Proteinometer Gray complete | ,, | 1 |
| Pump filter glass | ,, | 2 |
| Rod glass assorted | Lb. | 1 |
| Slide microscope thin for dark ground work | Gross | 1 |
| Slide Scale Richmond | No. | 1 |
| Spectroscope hand with adjustable slit | ,, | 1 |
| Steriliser hot air 14″×12″ complete | ,, | 2 |
| Still automatic 5 litre | ,, | 1 |
| Steriliser steam complete | ,, | 1 |
| Stove with long nozzle high pressure | ,, | 2 |
| Thermometer 200°C | ,, | 3 |
| Trough staining for 5 slides | ,, | 3 |
| Tube blood sugar with bulb (Folin and WU) graduated at 25 ml. | ,, | 12 |
| Tube fat estimation (Stake's) | ,, | 2 |
| Tubes opacity (Brown) set of | Set | 1 |
| Tube swat (West) for throats tube only | No. | 24 |
| Tube swat (West) wires for | ,, | 24 |
| Tube test 5″×5/8″ with rim | Doz. | 24 |
| Tube test 6″×3/4″ rimless | ,, | 24 |
| Tube test 4″×1/2″ | ,, | 24 |
| Tube Wintrobe | No. | 4 |
| Tubing glass soft external diameter 14 mm. | Lb. | 3 |
| Tubing glass soft No. 4A | No. | 2 |
| Tubing glass soft assorted size (1—11) | Lb. | 2 |
| Ureometer (Doremus) | No. | 2 |
| Urinometer | ,, | 2 |
| Wire Nichrome 24 S.W.G. | In. | 12 |
| Bottle dropping 1 oz. with grooved stopper | No. | 24 |
| Bottle clear round N.M. stoppered 8 ozs. | ,, | 12 |
| Bottle clear round N. M. stoppered 4 ozs. | ,, | 12 |
| Bottle clear round W. M. stoppered 1 lb. | ,, | 24 |
| Bottle clear round W. M. stoppered 8 ozs. | ,, | 12 |
| Bottle clear round W. M. stoppered 2 ozs. | ,, | 12 |
| Clock dark room | ,, | 1 |
| *Hygiene Appliances and Chemicals* | | |
| Apparatus water testing (Horrock's) complete | No. | |
| Case testing water poison complete | ,, | 1 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| *Anti-Malarial Equipment* | | |
| Microscope dissecting binocular complete | No. | 1 |
| Thermometer dry and wet bulb (hygrometer) | ,, | 1 |
| NEUROLOGICAL DEPARTMENT | | |
| *Aseptic Furniture* | | |
| Cabinet, instrument, 24″×18″×12″ with drop-front cupboards below complete | ,, | 1 |
| Trolley ward, 27″×18″ complete | ,, | 2 |
| *General Instrument and Appliances* | | |
| Manometer, spinal (Adson) complete | No. | 12 |
| Needle, hypodermic | ,, | 72 |
| Needle, serum | ,, | 48 |
| Sphygmomanometer | ,, | 2 |
| Steriliser for instruments, portable complete | ,, | 5 |
| Stethoscope | ,, | 6 |
| Syringe, Hypodermic, 2 cc. | ,, | 12 |
| Syringe, Serum, 10 cc. | ,, | 4 |
| Syringe, Serum, 20 cc. | ,, | 4 |
| *Ear, Nose and Throat Instruments and Appliances* | | |
| Klinostic, diagnostic set complete | Set | 6 |
| *Eye Instruments and Appliances* | | |
| Ophthalmoscope, luminous (Lister Morton) Ward model, complete | No. | 2 |
| Screen (Bjerrum's) marked with 2 perimeter rods with 3 mm. and 5 mm. dots | ,, | 1 |
| Screen (Bjerrum's) charts for 100 | ,, | 2 |
| Screen (Bjerrum's) colours test (Traquair's) set of | Set | 1 |
| *Nursing Appliances* | | |
| Mattress (Dunlopillo) latticed, 6′×3′×4′ covered | No. | 12 |
| Pillows, air, 18″ | ,, | 36 |
| Tray, E.I. kidney shaped, 10″ | ,, | 10 |
| Tray, E.I. instrument, size 10½″×7″ | ,, | 5 |
| Urinal, E.I. Male | ,, | 24 |
| *Physiotherapeutic/Electro-Therapeutic Equipment* | | |
| Apparatus, Faradic, complete | ,, | 2 |
| Bath, radiant heat complete with lamps and tumbler switches 5 amp | ,, | 2 |
| Lamp, infra red, small complete | ,, | 1 |
| Treatment, table electric complete | ,, | 1 |
| OBSTETRICS AND GYNAECOLOGY DEPARTMENT | | |
| *Aseptic Furniture* | | |
| Cabinet, instrument, 24″×18″ ×12″ with drop front cupboards, below complete | ,, | 2 |
| Leg, rest, for lithotomy position (Chrome plated) complete | ,, | 2 |
| Stand for three 2 gallon reservoir jars complete | ,, | 1 |
| Stand, wash, for two basins, complete | ,, | 2 |
| Steel, adjustable | ,, | 1 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| Table, instrument, 27″×18″ with 2 shelves complete | No. | 3 |
| Table, anaesthetic, 16″×16″ with 2 shelves complete | ,, | 1 |
| Table, maternity | ,, | 1 |
| Table, operation | ,, | 1 |
| Table, operation, sponge, rubber pads, set of 3 for | Set | 1 |
| Table steriliser, marble-topped, 36″×24″ without wheels, complete | No. | 1 |
| Trolley operation complete | ,, | 1 |
| Trolley, ward, 27″×18″, complete | ,, | 1 |
| *Anaesthetic Appliances* | | |
| Airway, (Hewitt) aluminium and rubber, large | ,, | 1 |
| Airway (Hewitt) aluminium and rubber, small | ,, | 1 |
| App. Nitrous Oxide, complete | ,, | 1 |
| App. Nitrous Oxide, Cylinder, angle typed 100 galls empty for | ,, | 10 |
| App. Gas Air (Minnitt's) complete | ,, | 1 |
| Drop-tube (Bellamy-Gardnert's) with cork | ,, | 1 |
| Forceps, tongue | ,, | 1 |
| Inhaler (Schimmel busch), large size | ,, | 2 |
| Mouth drop, and airway, London Hospital pattern, 1½ cm. and ¼ cm. and 1 cm. bite set of 3 complete | Set | 1 |
| Mouth gag Children size | No. | 2 |
| *General Instruments and Appliances* | | |
| App. Oxygen, Cylinder, (40 cu. ft.) empty | No. | 2 |
| Oxygen, Cylinder, fine adjustable Valve, with gauge | ,, | 1 |
| Oxygen, Cylinder, key lever for | ,, | 1 |
| Catheter, I.R. sizes, each | ,, | 2 |
| Catheter, suprapubic (Malecott's) I.R. | ,, | 1 |
| Catheter, suprapubic, introducer for | ,, | 1 |
| Clip, towel, cross-action | ,, | 6 |
| Clip, metal (Michel) set in case complete | Set | 1 |
| Forceps, artery (Dunhill) 5″ | No. | 6 |
| Foreceps, artery (Halstead) mosquito | ,, | 2 |
| Foreceps, artery (Kochers') 6″ | ,, | 6 |
| Forceps, artery, (Spencer Well's) 5″ | ,, | 12 |
| Forceps, dissecting, plain 5″ | ,, | 2 |
| Forceps, dissecting, plain 7″ | ,, | 2 |
| Forceps, dissecting, toothed 7″ | ,, | 1 |
| Forceps, sinus, 7″ | ,, | 2 |
| Forceps, Sponge-holding, with serrated jaws | ,, | 2 |
| Forceps, steriliser (Cheatle) | ,, | 2 |
| Forceps, tissue (Lanes), 6″ | ,, | 6 |
| Gloves, operation, rough size 6½″ and 7½″ pair of | Pair | 6 |
| Headlight "Winchester" | No. | 1 |
| Knife, B.P., blade sizes packet of 6 | Pkt. | 1 |
| Knife B.P., handle | No. | 1 |
| Lens, for skin examination | ,, | 1 |
| Needle, aneurysm | ,, | 1 |
| Needle, holder (Sim) | ,, | 1 |
| Needle, hypodermic | ,, | 24 |
| Needle, hypodermic, Record 1¼″ long | ,, | 12 |
| Needle, serum | ,, | 12 |
| Needle, spinal (Howard Jones) | ,, | 2 |
| Needle, suture, cutting, full curved triangular pointed size 3, 6, 15, (large) pkt. of 6 | Pkt. | 2 |
| Needle, suture, cutting half circle, triangular pointed size, 3, 9, 15, (large) pkt. of 6 | Pkt. | 3 |
| Needle, suture, cutting, straight, triangular pointed size 2, 10 (large) packet of 6 | Pkt | 2 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| Needle, suture, intestinal, half-circle, size 2, 5 (large) pkt. of 6 | ,, | 2 |
| Needle, suture, intestinal, straight size 2, 5 (large) pkt. of 6 | ,, | 2 |
| Needle, suture, round-bodied, full curved, sizes, 3, 9, 15, (medium) pkt. of 6 | ,, | 2 |
| Needle, suture, round-bodied, half circle, sizes 3, 9, 15 pkt. of 6 | ,, | 2 |
| Needle, suture, triangular pointed, full curved, fine, pkt. of 6 | ,, | 2 |
| Probe and director (Wheelhouse) | No. | 1 |
| Probe, silver, 10″ malleable | ,, | 1 |
| Retractor, abdominal (Morris) 2½″ wide | ,, | 2 |
| Retractor, abdominal (Puzzi) trivalve | ,, | 1 |
| Retractor, double and single blunt hooks (small) | ,, | 2 |
| Scalpel, 2″ | ,, | 1 |
| Scissors, curved, on flat (Mayo) 7½″ | ,, | 2 |
| Scissors, shop, 7″ | ,, | 1 |
| Scissors, straight, (Mayo) 7½″ | ,, | 2 |
| Scissors, straight, both points blunt 5″ | ,, | 1 |
| Scissors, straight, both points sharp 5″ | ,, | 1 |
| Scoop, oval, double ended | ,, | 1 |
| Sound, bladder, sizes 4, 8 each | ,, | 1 |
| Speculum, rectal, sphincteroscope type | ,, | 1 |
| Sphygmomanometer, complete | ,, | 1 |
| Spirit, lamp, nickle plated 2½ ozs. | ,, | 2 |
| Steriliser for bowls and water, for complete | ,, | 1 |
| Steriliser for instruments, portable complete | ,, | 2 |
| Steriliser steam, high pressure, complete | ,, | 1 |
| Steriliser, steam, high pressure, drum deep, for | ,, | 5 |
| Steriliser, steam, high pressure, dum shallow, for | ,, | 6 |
| High pressure stove "primus" with four burners, for | ,, | 1 |
| Stethoscope folding, 1½″, with diaphragm, double outlet to chest piece and pressure tubing | ,, | 1 |
| Syringe, Hypodermic, 2 cc. | ,, | 2 |
| Syringe, serum 10 cc. with eccentric nozzle | ,, | 1 |
| Syringe, serum 20 cc. | ,, | 1 |
| Syringe, wound | ,, | 1 |
| Tape, measure, line, 5′ | ,, | 1 |
| Tourniquet (Samway's) complete | ,, | 1 |
| *Ear, Nose, Throat Instruments* | | |
| Atomiser, nose and throat, complete | ,, | 1 |
| Auriscope, electric, complete | ,, | 1 |
| Cannula, tracheotomy, sizes, each | ,, | 1 |
| Chisel, mastoid (Politzer's) 5/16″, 9/16″, each | ,, | 1 |
| Currete, adenoid with cage 1/2″ | ,, | 1 |
| REHABILITATION DEPARTMENT | | |
| *X-Ray Apparatus and Appliances* | | |
| Clock, dark-room | ,, | 1 |
| *Physiotherapeutic and Electro-Therapeutic Equipment* | | |
| Apparatus, diathermy therapeutic complete | ,, | 2 |
| Apparatus, Faradic, complete | ,, | 1 |
| Apparatus, Galvanic portable complete | ,, | 1 |
| Valve, type F.P. 265 or U.E. 265 | ,, | 2 |
| Valve, type L-814 or VT 154 | ,, | 1 |

सत्यमेव जयते

| 1 | 2 | 3 |
|---|---|---|
| Valve, type RCA 866A | No. | 1 |
| Bath, radiant heat complete with lamps and tumbler switches 5 amp | ,, | 4 |
| Bath, radi ant heat, 16 C.P. carbon filament lamp (Bayonent type) 220 volts 60W, for | ,, | 24 |
| Bath, schnee, four cells, with stands and electrodes complete | ,, | 1 |
| Cabinet, electric, light bath complete | ,, | |
| Electrode, galvanic and faradic, disc carbon 1″ diam | ,, | 2 |
| Electrode, galvanic and faradic, disc copper 1″ diam | ,, | 2 |
| Electrode, galvanic, and faradic, disc zinc 1″ diam | ,, | 2 |
| Electrode, galvanic and faradic, disc zinc, stocking -ette covered 3/4″ diam | ,, | 2 |
| Electrode, galvanic and faradic, disc zinc stocking-ette covered 1 1/2″ diam | ,, | 2 |
| Electrode, galvanic and faradic, disc zinc stockingette covered, 2 1/2″ | ,, | 4 |
| Electrode, galvanic and faradic, flexible pad, 4″×6½″ | No. | 2 |
| Electrode, galvanic and faradic, hand grip metal pair | Pair | 6 |
| Electrode, galvanic and faradic, metal sheet for lb. | Lb. | 6 |
| Electrode, galvanic and faradic, muscle testing | No. | 2 |
| Electrode, galvanic and faradic, roller double pole | ,, | 2 |
| Electrode, galvanic and faradic, roller | ,, | 2 |
| Electrode, galvanic and faradic, spherical stocking-ette covered | ,, | 2 |
| Goggles protective for ultra violet light pair | Pair | 2 |
| Handle, electrodes, 6″ for | No | 2 |
| Handle with switch electrodes for | ,, | 2 |
| Lamp, infra red, large (Amdick type) | ,, | 1 |
| Lamp infra red, small, (Amdick type) complete | ,, | 1 |
| Lamp, infra red, element, (Amdick type) screw base 230 volts, 1,000 watts | ,, | 2 |
| Lamp, ultra violet, Hanovia A.C. complete | ,, | 1 |
| Lamp, ultra violet, Hanovia A.C. burner for | ,, | 1 |
| Lamp, ultra violet Hanovia D.C. complete | ,, | 1 |
| Lamp, ultra violet, Hanovia D.C. burner for | ,, | 1 |
| Lamp, ultra violet, 'Hanovia' portable, A.C. Complete | ,, | 1 |
| Lamp, ultra violet, 'Hanovia' portable, A.C. burner for | ,, | 1 |
| Treatment, table, electric, complete | ,, | 1 |
| Vibrator, portable, complete | ,, | 1 |
| Chest, Expander | ,, | 2 |
| Clubs, Indian | ,, | 3 |
| Cyclo static, orthopaedic | ,, | 2 |
| Nautical wheel | ,, | 1 |
| Pulley fitter | ,, | 1 |
| Rowing machine | ,, | 1 |
| Supination and Pronation bar | ,, | 1 |
| Wrist exerciser (set of 2) | ,, | 1 |
| Walking machine | ,, | |

## NEURO-SURGICAL DEPARTMENT

### *Aseptic Furniture*

| 1 | 2 | 3 |
|---|---|---|
| Cabinet, instrument, 24″×18″ with drop-front cupboards below complete | ,, | 1 |
| Table, operation, folding, light with lithotomy leg rests extension brackets and anaesthetic screen | ,, | 1 |
| Table operation folding, Buchanan pattern complete | ,, | 1 |
| Table operation, folding, light with Canvas case for | ,, | 1 |
| Trolley, ward, 27″×18″ complete | ,, | 1 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| *Anaesthetic Appliances* | | |
| Catheter, oral, (Magill), intratracheal, sizes 7,9 each | No. | 3 |
| Catheter, oral (Magill), elbow mount, sizes, 5, 6 for | " | 3 |
| Drop, tube, (Bellamy-Gardner) with cork | " | 2 |
| Forceps, tongue | " | 1 |
| Forceps, intratracheal, for introducing catheters | " | 1 |
| Inhaler, (Schimmelbusch), large size | " | 1 |
| Mouth Prop and Airway, London Hospital pattern 1½ cm., 1¼ cm and 1 cm. bite, set of 3 complete | Set | 1 |
| Pharyngoscope (Magill) complete | No. | 2 |
| Spinal and Local Anaesthetic outfit (Labat), complete | " | 3 |
| *General Instruments and Appliances* | | |
| Apparatus suction electric with foot-switch complete AC/DC | " | 1 |
| Brace Hudson | " | 1 |
| Brace (Souttar's) for all burs and drills | " | 1 |
| Bur, Hudson spherical 16 mm. | " | 2 |
| Bur, 16 mm. (to fit Souttar's Brace) | " | 2 |
| Catheter, I.R., size 3, 9 each | " | 6 |
| Catheter, sterilising tray | " | 1 |
| Clip, towel, (Backhaus) | " | 12 |
| Clip, silver (Cushing McKenzie) apparatus complete | " | 1 |
| Director and guide, dural, malleable (Cairns) curved | " | 1 |
| Dissector, (Watson Cheyne) | " | 1 |
| Elevator, periosteal sharp curved | " | 2 |
| Forceps, artery (Cairns), curved 5½″ | " | 24 |
| Forceps, artery (Cairns) straight 5½″ | " | 24 |
| Forceps, bone cutting (Horsley Cairns) curved on left | " | 1 |
| Forceps, bone cutting (Horsley Cairns) curved on right | " | 1 |
| Forceps, bone cutting (Trotter) angled with roller on spring | " | 2 |
| Forceps, dissecting (McIndoe) 6″ | " | 2 |
| Forceps, bone cutting (Wilm) angled | " | 1 |
| Forceps, gouge (DeVilbiss) with spare blade | " | 1 |
| Headlight "Winchester" | " | 1 |
| Hone Turkey | " | 1 |
| Hook, sharp, dural (Cairns) | " | 2 |
| Hook, blunt, neuro-surgical | " | 2 |
| Knife, bard Parker, blade all sizes packet of 6 | Pkt. | 4 |
| Knife, Bard Parker, handle | No. | 1 |
| Knife, tonotomy Jones, set of 2, in box | Set | 2 |
| Manometer, spinal (Adson) complete | No. | 6 |
| Needle, brain (Cushing Cairns) blunt | " | 4 |
| Needle, holder (Sim) | " | 2 |
| Needle, suture, cutting, straight, triangular pointed, size 10, (medium) packet of 6 | Pkt. | 12 |
| Needle, suture, intestinal, (French) spring eyed, 22 mm. Packet of 6 | " | 8 |
| Needle, suture, intestinal half circle size 5 (small) packet of 6 | " | 8 |
| Percussor (Babinski) | No. | 1 |
| Perforator (Hudson) 14 mm. | " | 2 |
| Retractor, malleable, copper straight 12½″×10½″ | " | 1 |
| Retractor, Scalp rake (Cairns) large, four pronged | " | 2 |
| Retractor, "S" shaped, malleable, 1/2″×7½″ | " | 2 |
| Rongeur, pituitary (Cairns), medium | " | 1 |
| Saw, (Gigli) set of 3 handles | Set | 1 |
| Saw, thread, guide and protector, for (Cairns de Martel) | No. | 2 |
| Saw, thread, Olive Crona, 50 cm. | " | 12 |
| Scissors, (McIndoe) | " | 1 |
| Scissors, straight, both points sharp, 5″ | " | 2 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| Scoop, Pituitary malleable (Adson) | No. | 1 |
| Spatula, brain, large malleable, (Olive Crona) | ,, | 1 |
| Sphygmomanometer complete | ,, | 1 |
| Syringe, glass, for Dakin's solution with I.R. bulb | ,, | 6 |
| Tape Measure, Linen, 5 feet | ,, | 1 |
| Tube, duedenal (Ryle) | ,, | 6 |

### *Ear, Nose and Throat Instruments and Appliances*

| 1 | 2 | 3 |
|---|---|---|
| Atomiser, nose and throat complete | No. | 1 |
| Auriscope, electric, complete | ,, | 1 |
| Forceps, nasal dressing (Tilley) | ,, | 1 |
| Forceps, tonsil dissection, toothed (Waugh) | ,, | 1 |
| Fork, tuning (Gardiner Browne) C 128 | ,, | 1 |
| Fork C 2/512 | ,, | 1 |
| Klinostic Diagnostic set complete | Set | 2 |
| Retractor, mastoid (Millison) | No. | 1 |

### *Eye Instruments and Appliances*

| 1 | 2 | 3 |
|---|---|---|
| Ophthalmoscope, Luminous (Lister-Morton) ward model, complete | ,, | 1 |
| Ligatures | | |
| Silk, black, No. 1, 1/4 oz. reel (For ligatures in brain Surgery) | Reel | 1 |

### *Nursing Appliances*

| 1 | 2 | 3 |
|---|---|---|
| Thermometer, bath in card board case (To 240°F) | No. | 2 |

### *Dispensary Appliances*

| 1 | 2 | 3 |
|---|---|---|
| Measure, glass, 4 ozs. | ,, | 2 |

### *Laboratory Appliances*

| 1 | 2 | 3 |
|---|---|---|
| Jar, Specimen, sizes, each | ,, | 6 |
| Tube, test, 6″×3/4″ rimless | Doz. | 2 |

### *Packing Materials and Containers*

| 1 | 2 | 3 |
|---|---|---|
| Bottle, clear, round, N.M. stoppered, winchesterquart | No. | 6 |

### *Physiotherapeutic and Electro-Therapeutic Equipment*

| 1 | 2 | 3 |
|---|---|---|
| Apparatus, diathermy therapeutic complete | ,, | 1 |

## MEDICAL EQUIPMENT SCALE FOR DENTAL UNIT

### *Aseptic Furniture*

| 1 | 2 | 3 |
|---|---|---|
| Cabinet, instrument, 24″×12″ ×12″ with drop front cupboards below, complete | No. | 1 |
| Cabinet, Instrument, 60 cm.×45 cm×30 cm. (24″×18″×12″), with metal top, bottom, sides and glass door front, with glass shelves, on stands complete | ,, | 1 |
| Chair, dental, portable, with attachment complete | ,, | 1 |
| Table, instrument, folding light | ,, | 1 |

| 1 | 2 | 3 |
|---|---|---|
| ***Anaesthetic Appliances*** | | |
| Apparatus, Nitrous Oxide, Complete .. .. .. .. .. | No. | 1 |
| Apparatus, Nitrous Oxide, Cylinder 100 gallons empty (angle type) Anaesthetic .. .. .. .. .. .. .. | " | 5 |
| Inhaler, Oro-Nasal, complete .. .. .. .. .. | " | 1 |
| ***Central Instruments and Appliances*** | | |
| Apparatus suction, foot action purves complete .. .. .. | " | 1 |
| Forceps, artery (Cairn's) curved 5½" .. .. .. .. | " | 1 |
| Forceps, artery, (Cairn's) straight 5½" .. .. .. .. | " | 1 |
| Forceps, artery, (Halstead), mosquito .. .. .. .. .. | " | 1 |
| Forceps, artery (Spencer Well's) 5" .. .. .. .. .. | " | 1 |
| Forceps, dissecting plain, 5" .. .. .. .. .. | " | 1 |
| Forceps, dissecting, toothed, 7" .. .. .. .. .. | " | 1 |
| Forceps sinus, 7" .. .. .. .. .. .. .. | " | 1 |
| Forceps, steriliser (Cheatle's) .. .. .. .. .. | " | 1 |
| Gloves, operation, rough size 7 .. .. .. .. .. | Pair | 2 |
| Headlight, "Winchester" .. .. .. .. .. .. | No. | 1 |
| Knife, Bard Parker, blades packet of 6 .. .. .. .. | Pkt. | 1 |
| Knife Bard Parker, blade, handle .. .. .. .. .. | No. | 1 |
| Needle, Holder (Gillies), 6" .. .. .. .. .. .. | " | 1 |
| Needle, hypodermic .. .. .. .. .. .. | " | 2 |
| Needle, suture, cutting, full curved triangular pointed, (small), pkt. of 6 .. | Pkt. | 1 |
| Probe, siler, 10" malleable .. .. .. .. .. .. | No. | 1 |
| Scissors, shop, 7" .. .. .. .. .. .. .. | " | 1 |
| Scissors, straight, both points sharp 5" .. .. .. .. | " | 1 |
| Steriliser, steam, high pressure, drum shallow, for size 4¾×11¼" .. .. | " | 2 |
| Syringe, Hypodermic, 2 cc. .. .. .. .. .. .. | " | 1 |
| Wire, cutter, for silver Kirshner's wires .. .. .. .. | | 1 |
| ***Ear, Nose and Throat Instruments and Appliances*** | | |
| Scissors, tonsil, with sharpened rapier ends, 18 cm. (7") .. .. | " | 1 |
| ***Dental Instruments, Appliances and Materials*** | | |
| Chair, dental, pump, perfected with attachment, complete .. .. | " | 1 |
| Steriliser for Surgical Instruments 17"×9½×4" electric .. .. .. | " | 1 |
| Engine electric (Rathbone) wall bracket type with No. 2 slip-joint and No. 7, handpiece, complete .. .. .. .. .. .. | " | 1 |
| Heater water storage electric 13·64 litres complete with element and thermostat .. .. .. .. .. .. .. | " | 1 |
| Plate boiling electric complete with hole surround .. .. .. | " | 1 |
| Abrasive, mounted, green types, each .. .. .. .. | " | 1 |
| Alloy, Solila fine grain .. .. .. .. .. .. | Bott. | 5 |
| Apron, anaesthetic, jaconet .. .. .. .. .. .. | No. | 1 |
| Band, head, Khaki webbing .. .. .. .. .. .. | " | 6 |
| Base, plate, lower, box of 12 .. .. .. .. .. | Box | 1 |
| Base, plate, upper, box of 12 .. .. .. .. .. | " | 1 |
| Bottle, mercury, dropper .. .. .. .. .. .. | No. | 1 |
| Alloy mercury Dispensor for .. .. .. .. .. | " | 1 |
| Bowl, rubber, for plaster, large, 12 cm dia. .. .. .. .. | " | 1 |
| Box, glass, with lid for dental napkins .. .. .. .. | " | 1 |
| Box, glass with lid, for wool rolls .. .. .. .. .. | " | 1 |
| Breach, nerve canal (Lamb's) soft, pkt. of 12 .. .. .. .. | Pkt. | 2 |
| Brush, bristle, various shapes types, each .. .. .. .. | Box | 1 |
| Bur, fissure, flat, various types packet of 6, each .. .. .. | Pkt. | 3 |
| Carrier, amalgam (Hampel) all metal .. .. .. .. .. | No. | 2 |

## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| Carrier, amalgam, right angle | No. | 2 |
| Carver and Spatula, wax | ,, | 1 |
| Chisel, enamel, sizes, each | ,, | 1 |
| Instrument (Blakes') cutting all types, each | ,, | 1 |
| Cheek and lip retractor | ,, | 1 |
| Clamp, cotton, roll, for molars (Regers) | ,, | 1 |
| Clamp, rubber, dam (Ivory pattern) Fig. 6 | ,, | 1 |
| Clamp, rubber, dam (Ivory pattern) Fig. 9 | ,, | 1 |
| Clamp, rubber, dam (Ivory pattern) Fig. 15 | ,, | 1 |
| Cleaner, pulp canal, medium, tube of 12 | Tube | 4 |
| Cups, polishing I.R., Corrugated inside, medium, small each | No. | 6 |
| Denture, fixing, powder, 'Corragge' tin of | Tin | 1 |
| Disc, Burlow, assorted, box of 100 | Box | 1 |
| Drill, nerve, canal, (Beutelrock) | No. | 2 |
| Elevator, root, types each | ,, | 1 |
| Engine, travelling, foot with cable arm, No. 2 slipjoint and No. 7 M Microstyle handpiece, in box complete | ,, | 1 |
| Excavator, double ended, sizes, each | ,, | 1 |
| Facer, root, (ottolengui's) sizes, each | ,, | 1 |
| Files, finishing, set of 6 | Set | 1 |
| Flask, Empire | No. | 1 |
| Floss, dental waxed Nylon, tube of 11 metres | Tube | 1 |
| Forceps, rubber, dam, clamp, (stocke's) | No. | 1 |
| Forceps, tongue, aseptic joint pattern | ,, | 1 |
| Forceps, tooth, sizes, each | ,, | 1 |
| Frame, rubber, dam, (Fernald's) | ,, | 1 |
| Gag, mouth, all metal (Ferguson) | ,, | 1 |
| Glass, (Dappen's), medicament, assorted colours | ,, | 3 |
| Guide, tooth shade, porcelain teeth | ,, | 1 |
| Guttapercha points, germicidal, assorted box of 150 | Box | 1 |
| Guttapercha temporary stopping | Pk | 1 |
| Holder, bur, metal | No. | 1 |
| Holder, bur, convertible, assortment | ,, | 1 |
| Holder, nerve instrument | ,, | 2 |
| Holder, rubber dam (Hospital Pattern) | ,, | 1 |
| Hygienator, dental | ,, | 1 |
| Instrument, operating, bone (Boyd Garner) set of complete | Set | 1 |
| Instrument, plastic filling types each | No. | 1 |
| Knife, plaster | ,, | 1 |
| Knife, wax (Fahnstock's) large | ,, | 1 |
| Knives, Gingivactomy set of complete | Set | 1 |
| Knife, Gingivactomy universal, (Black's) with balanced Grip handle, complete | No. | 1 |
| Lamp, spirit, brass, for soldering | ,, | 1 |
| Lancet, (Dally's) | ,, | 1 |
| Mixer, plaster, spoon shaped | ,, | 1 |
| Spatula, Tarno, blunt end | ,, | 1 |
| Mirror, mouth, plain, glass | ,, | 2 |
| Nippers, cutting, bevelled | ,, | 1 |
| Outfit "Matrix" (Lennox), complete | Set | 1 |
| Pin, bench, hardwood | No. | 1 |
| Pliers, crown (Hows) straight | ,, | 1 |
| Pliers, clamp, bendiwol (Mokellops) | ,, | 1 |
| Pliers, engine | ,, | 1 |
| Pliers, pin, roughing and bending | ,, | 1 |
| Plugger, nerve, canal, Fig. 2 | ,, | 1 |
| Probe, single, ended, sizes, each | ,, | 1 |
| Probe, mouth (Hewitt), set of 3, with lead pads and connecting chains | Set | 1 |
| Props, mouth, mushin metal/rubber set of 4 | ,, | 1 |
| Prop, mouth, (Hewitt), pad lead | No. | 6 |

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## APPENDIX XXIV—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| Punch, rubber, dam (Ainsworth pattern) | No. | 1 |
| Peamer, root (Girdwood), types, each | „ | 1 |
| Reamer, nerve canal, hand, (Globe) packet of 6 (sizes 1 to 5 and 8) | Pkt. | 1 |
| Recorder, Bite, (kelt's) complete | No. | 1 |
| Reflector and cheeck ratractor | „ | 1 |
| Sanitary waste, receptacle | „ | 1 |
| Scaler, types, each | „ | 1 |
| Scissors, angular sharp pointed 5″ | „ | 1 |
| Scissors, angular, one round and one sharp point, screw joint, 12·5 cm | „ | 1 |
| Scissors, surgical curved | „ | 1 |
| Screw driver, small, all metal with revolving head and 4 point | „ | 1 |
| Separator, double bow improved Ivory's pattern | „ | 1 |
| Slab, glass, mixing, Fig. 1, size 15·2 cm.×7·6 cm.×2·2 cm. | „ | 2 |
| Spatula, steel, (Weston's) double ended | „ | 1 |
| Spatula, bone double ended 17 cm. | „ | 1 |
| Spittoon, E. I. | „ | 2 |
| Splint (Kingsley) | „ | 4 |
| Sterilizer, record, complete | „ | 1 |
| Syringe, hypodermic (D. M. Co.) all metal "Washerless" complete | „ | 1 |
| Syringe, hypodermic, cartridge type | „ | 2 |
| Syringe, hypodermic, (D.V. Co.) all metal, "Washerless" needle, 22·2 mm. for tube of 6 | „ | As required |
| Syringe, hypodermic, cartridge, type, needle 22·2 mm., for | „ | 24 |
| Syringe, hypodermic, (D.V. Co.'s) all metal "Washerless", needle, 41·3 mm., for tube of 6 | „ | As required |
| Syringe, hypodermic, cartridge type, needle 41·3 mm., for | „ | 18 |
| Trimmer, (Mitchel) | „ | 1 |
| Tweezers each type | „ | 2 |
| Bowl, E. I. 10 cm. (4″) | „ | 2 |
| Bowl, E. I., 20 cm. (8″) | „ | 2 |
| Box, dressing | „ | 1 |
| Jug, measure, E. I., graduated 1,000 ml. | „ | 1 |
| Nippers, Nail, 15 cm. (5 1/2″) | „ | 1 |
| Tray, E. I. Kidney-shaped | „ | 2 |
| Tray, E. I., shallow | „ | 1 |
| Measure glass sizes, each | „ | 1 |
| Tube, test, 6″×3/4″ rimless | Doz. | ½ |
| Tube, test, 4″×1/2″ | „ | ½ |
| Lamp, operating, Field portable shadowless 230 V, AC or DC Mains/12 Volts battery operated | „ | 1 |
| Scissors, crown and collar (Beebee's) curved | „ | 1 |
| Spittoon foutain portable complete | „ | 1 |
| Syringe, water (Hunt's) with metal plunger | „ | 1 |
| Tray, impression each type all size | „ | 1 |

## APPENDIX XXV

# COST ESTIMATES OF BUILDINGS

### *Estimated Cost of 250 bedded Hospital*

## I. Non-recurring—

| | | | Rs. |
|---|---|---|---|
| 1. (*a*) Hospital building (including Administration Block, O. P. D., X-ray, Laboratory, Garage, Laundry, Mortuary etc.) @ Rs. 9,000 per bed .. .. .. .. .. .. .. | | | 22,50,000 |
| 2. Nurse's Home— Residential accommodation for 60 Nurses at Rs. 5,000 per head plus cost of furniture 10% .. .. .. .. .. | | | 3,30,000 |
| 3. Residential accommodation for the minimum staff required to stay on the premises— | | | |
| (*i*) 2 Senoir Staff quarters @ Rs. 45,000 each quarter .. .. | | | 90,000 |
| (*ii*) 3 quarters for medical officers @ Rs. 30,000 .. .. .. | | | 90,000 |
| (*iii*) 5 quarters for Registrars @ Rs. 18,000 .. .. .. | | | 90,000 |
| (*iv*) 10 quarters for House Surgeons @ Rs. 8,000 .. .. | | | 80,000 |
| (*v*) Quarter's for Store keeper .. | 1 | @Rs. 9,000 each | 72,000 |
| Operation room Assistant .. | 1 | | |
| Laboratory Technician .. .. | 1 | | |
| Radiographer .. .. .. | 1 | | |
| Dispensers .. .. .. | 4 | | |
| (*vi*) 75 quarters for class IV@ Rs. 5,000 each .. .. .. | | | 3,75,000 |
| (*b*) Equipment @ Rs. 1,500 per bed .. .. .. .. | | | 3,75,000 |
| Total Non-recurring .. | | | 37,52,000 |
| II. Recurring Cost @ Rs. 4,000 per bed per annum .. .. .. | | | 10,00,000 |

### *Estimated Cost of 500 Bedded Hospital*

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## I. Non-recurring—

| | |
|---|---|
| (*a*) Buildings— | |
| 1. Hospital buildings at Rs. 9,000 per bed (including Administrative Block, O. P. D., X-ray, Laboratory, Garage, Laundry, Mortuary excluding land) .. .. .. .. .. .. .. | 45,00,000 |
| 2. Nurses Home— Residential accommodation for 120 nurses at Rs. 5,000 per head plus cost of furniture at 10% .. .. .. .. .. | 6,60,000 |
| 3. Residential accommodation for minimum staff required to stay on the premises— | |
| (*i*) 2 Senior Staff quarters @ Rs. 45,000 each .. .. | 90,000 |
| (*ii*) 6 quarters for medical officers @ Rs. 30,000 each .. | 1,80,000 |
| (*iii*) 10 quarters for registrars @ Rs. 18,000 each .. .. | 1,80,000 |
| (*iv*) 20 quarters for House Surgeons @ Rs. 87,000 each .. | 1,60,000 |
| (*v*) 1 quarter for Superintendent .. .. .. .. | 15,000 |
| (*vi*) 10 quarters for compounders dressers, Lab. technicians .. | 90,000 |
| (*vii*) 150 quarters for class IV servants @ Rs. 5,000 each .. | 7,50,000 |
| (*b*) Equipment @ Rs. 1,500 per bed .. .. .. .. | 7,50,000 |
| Total Non-recurring | 73,75,00 |
| II. Reurring per annum 500 beds @ Rs. 4,000 per bed .. .. | 20,000,000 |

## APPENDIX XXVI

## STANDARD OF LINEN PER BED

| Item | Quantity | | | Approximate Cost |
|---|---|---|---|---|
| | | | | Rs. |
| *Male patients* | | | | |
| 1. Coat patient | 4 | 7/25 | E | 29·00 |
| 2. Pajama cotton | 4 | 5/25 | E | 21·00 |
| 3. Bath Towel | 2 | 3/60 | E | 7·20 |
| 4. Bed Sheet | 6 | 7/50 | E | 45·00 |
| 5. Draw Sheet | 6 | 5/ | E | 30·00 |
| 6. Blanket | 4 | 45/- | E | 180·00 |
| 7. Pillows | 2 | 5/50 | E | 11·00 |
| 8. Pillows Case | 4 | 3/75 | E | 15·00 |
| 9. Mattress Cover | 2 | 22/- | E | 44·00 |
| 10. Counterpan | 1 | 11/40 | E | 11·40 |
| | | | | 393·60 |
| *Female Patients* | | | | |
| 1. Jacket cotton | 4 | 3/75 | E | 15·00 |
| 2. Jacket warm | 2 | 15/- | E | 30·00 |
| 3. Skirt | 4 | 4/50 | E | 18·00 |
| 4. Head Veils | 4 | 5/50 | E | 22·00 |
| 5. Counterpan | 1 | 11/40 | E | 11·40 |
| 6. Bath Towel | 2 | 3/60 | E | 7·20 |
| 7. Bed Sheet | 6 | 7/50 | E | 45·00 |
| 8. Draw Sheet | 6 | 5/- | E | 30·00 |
| 9. Pillow | 2 | 5/50 | E | 11·00 |
| 10. Pillow case | 4 | 3/75 | E | 15·50 |
| 11. Blanket | 4 | 45/- | E | 180·00 |
| 12. Mattress Cover | 2 | 22/- | E | 44·00 |
| | | | | 429·10 |
| *Children Patients* | | | | |
| 1. Coat Children Cotton | 3 | 2/50 | E | 7·50 |
| 2. Coat Children Warm | 3 | 10/50 | E | 31·50 |
| 3. Baby Sheet | 6 | 2/40 | E | 6·00 |
| 4. Draw Sheet | 16 | 5/- | E | 50·00 |
| 5. Mattress Cover Small | 2 | 15/- | E | 30·00 |
| 6. Hand Towel or bath towel | 12 | 1/60 | E | 92·00 |
| 7. Blanket·Baby | 4 | 27/- | E | 108·00 |
| 8. Pillow | 2 | 5/50 | E | 11·00 |
| 9. Pillow case | 4 | 3/75 | E | 15·00 |
| 10. Counterpan Baby | 1 | 7/50 | E | 7·50 |
| | | | | 285·70 |

*N.B.*—Fixed vide Ministry of Health letter No. 2 (IV)-23/63-H, dated 18-11-1965.
E stands for each

## APPENDIX XXVII

## LIST OF MECHANICAL LAUNDRY MACHINES AVAILABLE IN THE COUNTRY

1. Washer
2. Hydroextractor
3. Drying Tumbler
4. Drying Chamber
5. Steam Presses
6. Calendar
7. Steam Boiler

*N.B.*—Plan of Hospital Laundry may be seen at page 195.

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## APPENDIX XXVIII

# DETAILS ABOUT LAUNDRY SERVICES

### I. *Accommodation*

The following is a guide to the accommodation required; modifications may need to be made to the areas of the main accommodation A (a) in the light of the precise requirements, including the type of plant selected:

| | | |
|---|---|---|
| Laundry capacity (Articles weekly) | 45,000 | 60,000 |
| Wash-area capacity (Dry weight weekly 0·7 lbs. per article) | 31,500 | 42,000 |
| | Areas in square feet | |
| A. Basic accommodation— | | |
| (a) Productive area Reception, sorting and calssifying | 1,125 | 1,500 |
| Wash area | 1,190 | 1,480 |
| Calendering, drying pressing | 2,850 | 3,890 |
| Assembling, packing and despatch | 1,500 | 2,000 |
| Sub-totals | 6,665 | 8,870 |
| (b) Staff lavatories and Changing rooms: | | |
| Female | | |
| Male | | |
| (c) Barrier rooms— | | |
| Female | 65 | 65 |
| Male | 65 | 75 |
| (d) Mess-room | 250 | 320 |
| (e) Rest room | 60 | 60 |
| (f) Officers | 135 | 180 |
| (g) Laundry Stores— | | |
| Washing Materials Store | 100 | 120 |
| Machine Clothing Store | 55 | 55 |
| (h) Electrical Switch-room | 40 | 40 |
| (i) Calorifier and plant room | 100 | 100 |
| (j) Cleaners room | 50 | 50 |
| (k) Circulation space for (b) to (j) | .. | .. |
| (l) Head tank storage (1 hour) | 120 | 150 |
| B. Additional accommodation— | | |
| (a) Foul sluice room | .. | .. |
| (b) Infants' napkin section | .. | .. |
| (c) Main linen store | .. | .. |
| (d) Repair room for linen | 65 | 100 |
| (e) Water softening plant | 80 | 80 |
| Soft water storage (4 hours) | 240 | 300 |
| Dry salt store | 80 | 80 |
| Slurry salt store | 100 | 100 |
| (f) Engineers' store | 60 | 60 |
| (g) Dry cleaning room | .. | .. |

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## II. *Main Laundry Plant—Schedule*

The following is a guide to the main items of plant required; modifications may be needed in the light of the particular type of plant and equipment selected and the weight and make-up of the work:

| | | |
|---|---|---|
| Laundry capacity (Articles weekly 0·7 lb. per article) .. .. | 45,000 | 60,000 |
| Wash-area capacity (Dry weight weekly-lbs.) .. .. .. | 31,500 | 42,000 |
| **Washing Machines :** | | |
| 100 lbs. .. .. .. .. .. .. | 5 | 7 |
| 50 lbs. .. .. .. .. .. | 1 | 1 |
| 25 lbs. .. .. .. .. .. .. | 1 | 1 |
| **Hydro-extractors :** | | |
| 36 in (100 lb) .. .. .. .. .. .. | 3 | 4 |
| 21 in (25 lb) .. .. .. .. .. .. | 1 | 1 |
| **Flat-work ironing machines** | | |
| (18 in × 120 in/126 in.) .. .. .. .. .. | 4-roll | 5-roll |
| | .. | 3-roll |
| **Folding equipment :** | | |
| Without cross fold for small articles .. .. .. .. | 1 | .. |
| With cross fold for small articles .. .. .. .. | .. | .. |
| With cross fold for small and large articles .. .. .. | .. | 1 |
| **Calender preparing equipment :** | | |
| "Spreader" for large flat work .. .. .. .. | .. | 1 |
| Suction preparing equipment for large flat work .. .. | .. | 1 |
| **Presses** .. .. .. .. .. .. .. | 6 | 8 |
| **Static drying machines :** | | |
| Capacity 200 lbs. per hour .. .. .. .. .. | 1 | 1 |
| Capacity 350 lb. per hour .. .. .. .. .. | .. | .. |
| **Tumblers-preparing :** | | |
| "Shaking out" or conditioning .. .. .. .. | .. | .. |
| Orthodox type (35/48 cu. ft. capacity) .. .. .. .. | 2 | 2 |
| Tumblers—complete drying : | | |
| Orthodox type (35/48 cu. ft. capacity) .. .. .. | 1(1) | 1(2) |
| Starching machine (for collars) .. .. .. .. | .. | .. |
| Collar polishing machine .. .. .. .. .. | .. | .. |

## III. *Service Requirements*

The following table indicates maximum consumptions to be assumed for the laundries of two different capacities (45,000 to 60,000 articles weekly), the equipment for which is specified in Appendix 2. The final estimates should be made to suit the particular type of equipment selected, the washing methods employed, and the weight and make-up of the work.

| | | |
|---|---|---|
| Laundry capacity (Articles weekly 0·7 lb. per article) .. .. | 45,000 | 60,000 |
| Wash-area capacity (Dry weight weekly-lbs.) .. .. .. | 31,500 | 42,000 |
| **Steam :** | | |
| Approx. hourly consumption (lb.) .. .. .. .. .. | 2,200 | 2,800 |
| High pressure | | |
| 200°F wash .. .. .. .. .. .. | 1,200 | 1,600 |
| Low pressure | | |
| 160°F wash .. .. .. .. .. | 870 | 1,160 |
| **Approx. low pressure flow (lb. per minute)** .. .. .. | 26 | 34 |
| **Water :** | | |
| Approx. total max. hourly consumption (gallons)—cold 85 per cent; hot 15 per cent .. .. .. .. .. | 2,800 | 3,700 |
| Maximum cold water flow (gallons per minute) .. .. .. | 130 | 170 |
| **Electricity** approx. Power (excluding mechanical ventilation and conveyors) Kw .. .. .. .. .. .. | 35 | 45 |

## APPENDIX XXIX

## WASHING PROCESSES

Classification of linen to be sent for washing should first be done as shown below and bagged separately for despatch to laundry:

(a) Solied linen
(b) Infected linen
(c) Fouled linen
(d) Infected fouled linen.

Then the linen received at the laundry end should be classified according to colour, fabric and degree of soil. Coloured linen should be separated from white. Fast colours should be separated from fugitives. Cotton should be separated from woollen of synthetic fabrics. It may be mentioned here that even woollen blankets can be washed satisfactorily under controlled conditions.

If the dirty linen is separately washed according to degree of soil, washing is simplified, time is saved, economy is effected, and the results are better. It should be ensured that fouled and infected linen are received, washed and despatched on separate time schedules. In other words they should not be mixed up with the uninfected soiled linen. Staff working in the dirty area should also be separate from those working in the clean area.

Washing operations consist of the following procedures in the order indicated. Washing formulae are given at the end of page 200.

(a) Breaking
(b) Sudsing
(c) Bleaching
(d) Rinsing
(e) Starching
(f) Souring
(g) Blueing
(h) Ironing

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(a) *Breaking*—This is the first operation of adding soap chips and detergents like washing soda or commercial idet to high tempeture water in the washing machine and allowing the mixture to break and build up suds.

(b) *Sudsing*—Soiled linen are thrown in the basket containing the soap suds and machine is operated to agitate thereby casuing the suspension of dirt. Multiple sudsing of short duration alternated by 3 minute rinses is more effective than continuous sudsing or rinsing. Appropriate water levels will have to be maintained during these processes.

(c) *Bleaching*—Commercial bleaching agents like Tinopal, Chlorine bleach or hydrogen peroxide may be used. Bleaching suds should not exceed 10 minutes duration and the temperature should not be more than 160°F.

(d) *Rinsing*—Rinsing is flushing water through the linen in the machine to remove suspended dirt, detergents or bleaching agents.

(e) *Starching*—This is better done after the final washing operation. Light, medium and heavy starching should be consistently and uniformly done to the linen. Constant variation is not desirable.

(f) *Souring*—This is done to neutralise the alkalinity in the wash to give a good finishing appearance to the linen, and to prevent irritation to the users. Generally one may notice that washed clothes tend to be yellowish. This is because of the effect of heat on starched clothes. By adding a mild acid like boric acid or any fluoride acid in the washing operation, the washed linen is freed of the yellowish colour. If however the clothes turn grey, it should be understood that the water used in the laundry is hard and it should first be softened.

(g) *Blueing*—This shouuld be the last operation and requires fine judgment which comes by practice. Any commercial blue will serve the purpose.

(h) *Ironing*—Calendering machines, flat work ironers and hand-presses may be used for this purpose. Normally 70 per cent of washed linen will be for flat iron work, 25% rough dry and 5% press work.

*Removal of Stains*—The majority of stains are likely to be removed during the normal laundry processes. Blood stains which are quite common can easily be removed by washing the stained part of the linen in lukewarm water. Stubborn stains will however have to be treated individually by finding out the base of the stains.

*Infections*—No special efforts is generally needed to ensure infection free washed linen. The high temperature washing process indicated above will give a germ-free linen. Particularly the souring operation will destroy all bacteria.

*Washing Formulae*

| | Cotton white 100 lbs. dry weight | Cotton coloured 100 lbs. dry weight | Woolen 100 lbs. dry weight |
|---|---|---|---|
| | Lbs. | Lbs. | Lbs. |
| 1. Washing Soap Chips | 1·5 | 1 | 1·5 |
| 2. Idet | 0·01 | .. | 0·01 |
| 3. Washing Soda | 1 | 0·5 | .. |
| 4. Bleaching Powder | 0·5 | .. | .. |
| 5. Tinopal | 0·05 | .. | .. |
| 6. Starch | .. | 1 | .. |
| 7. Temperature | 140°F—180°F | 150°F | 60°F |

NOTE:—Temperature should be varied within the range indicated above with reference to the degree of soil.

## APPENDIX XXX

# STANDARD OF DIETS TO BE SUPPLIED TO PATIENTS

### (a) *Full Diet*

Recommended for all patients, who are not on therapeutic or modified diets—

| Food Items<br>1 | Vegetarian<br>2 | Non-vegetarian<br>3 |
|---|---|---|
| | Gms. | Gms. |
| Cereals* | 350 | 350 |
| Bread | 50 | 50 |
| Pulses | 50 | 25 |
| Milk/Curds | 550 Ml. | 300 Ml. |
| Green and other vegetables | 300 | 300 |
| Potatoes or substitutes | 100 | 100 |
| Butter | 10 | 10 |
| Fats and oils | 20 | 30 |
| Sugar | 50 | 50 |
| Seasonal Fruit | 150 | 150 |
| Meat/Fish/Chicken or | .. | 100 |
| Egg | .. | 2 |
| Tea or | 7 | 7 |
| Coffee | 15 | 15 |
| Salt | 10 | 10 |
| Condiments | 15 | 15 |
| Fuel | 1 K.G. | 1 K.G. |
| Provides— | | |
| Calories | 2,500 | 2,500 |
| | Gms. | Gms. |
| Protein | 75 | 80 |
| Fat | 60 | 70 |
| Carbohydrates | 420 | 360 |

*Cereals include wheat, rice, bread, jowar, milo, bajra and ragi etc.

### (b) *Full Soft Diet or Light Diet*

| Food items<br>1 | Vegetarian<br>2 | Non-Vegetarian<br>3 |
|---|---|---|
| | Gms. | Gms. |
| Cereals* | 200 | 200 |
| Pulses | 100 | 100 |
| Bread | 50 | 50 |
| Milk/Curds | 500 Ml. | 300 Ml. |
| Egg or | One | .. |
| Channa (Paneer) | 25 | .. |
| Green and other vegetables | 300 | 300 |
| Potatoes or substitutes | 100 | 100 |
| Butter | 10 | 10 |

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APPENDIX XXX—*contd.*

| 1 | 2 | 3 |
|---|---|---|
| Fats and Oils | 20 | 30 |
| Sugar | 50 | 50 |
| Seasonal Fruit | 150 | 150 |
| Meat/Fish/Chicken | .. | 100 |
| or | | |
| Eggs | .. | Two |
| Tea or | 7 | 7 |
| Coffee | 15 | 15 |
| Salt | 10 | 10 |
| Condiments | 15 | 15 |
| Fuel | 1 K.G. | 1 K.G. |
| Provides— | | |
| Calories | 2,250 | 2,250 |
| | Gms. | Gms. |
| Protein | 60 | 65 |
| Fat | 55 | 60 |
| Carbohydrates | 370 | 360 |

*Cereals include wheat, rice, bread, jowar, milo, bajra and ragi etc.

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### (c) *Full Liquid Diet*

Suitable for all acute conditions before diagnosis:

| Food items | Gms. |
|---|---|
| Milk | 1 Litre |
| Bread | 100 |
| Butter | 20 |
| Egg | One |
| Green and other vegetables (for soup) | 150 |
| Potatoes or substitutes | 100 |
| Sugar | 50 |
| Seasonal fruit | 150 |
| Tea or | 7 |
| Coffee | 15 |
| Salt | 10 |
| Fuel | 1 Kg. |
| Provides— | |
| Calories | 1,500 |
| | Gms. |
| Protein | 45 |
| Fat | 60 |
| Carbohydrates | 190 |

NOTE—Patients who do not take egg may be given 100 ml. of milk instead.

## APPENDIX XXX—*contd.*

### (d) *General Full Diet.* (*Children*)

| Food items<br>1 | Vegetarian<br>2 | Non-vegetarian<br>3 |
|---|---|---|
| | Gms. | Gms. |
| Cereals* | 250 | 250 |
| Bread | 100 | 100 |
| Pulses | 25 | 25 |
| | Ml. | Ml. |
| Milk/Curds | 750 | 450 |
| Green and other vegetables | 150 | 150 |
| Potatoes or substitutes | 50 | 50 |
| Butter | 10 | 10 |
| Fats and oils | 10 | 10 |
| Sugar | 50 | 50 |
| Tea or | 7 | 7 |
| Coffee | 15 | 15 |
| Seasonal Fruit | 150 | 150 |
| Meat/Fish/Chicken or | .. | 100 |
| Eggs. | .. | Two |
| Salt | 10 | 10 |
| Condiments | 10 | 10 |
| Fuel | 1 K.G. | 1 K.G. |
| Provides— | | |
| Calories | 2,000 | 2,000 |
| | Gms. | Gms. |
| Protein | 68 | 75 |
| Fat | 54 | 55 |
| Carbohydrates | 350 | 340 |

*Cereals include wheat, bread, rice, jowar, milo, bajra and ragi etc.

### (e) *Full Soft Diet* (*For Children*)

| Food items<br>1 | Vegetarian<br>2 | Non-Vegetarian<br>3 |
|---|---|---|
| | Gms. | Gms. |
| Cereals* | 100 | 100 |
| Dal | 50 | 50 |
| Bread | 100 | 100 |
| | Ml. | Ml. |
| Milk/Curds | 750 | 450 |
| Green & other vegetables | 150 | 150 |
| Potatoes or substitute | 50 | 50 |
| Butter | 10 | 10 |
| Fats and oils | 10 | 10 |
| Egg/Channa | One/25 | .. |
| Meat/Fish/Chicken or | .. | 100 |
| Eggs | .. | Two |
| Sugar | 50 | 50 |
| Tea or Coffee | 7/15 | 7/15 |
| Seasonal Fruit | 150 | 150 |
| Salt | 10 | 10 |
| Condiments | 10 | 10 |
| Fuel | 1 K.G. | 1 K.G. |
| Provides— | 1,800 | 1,850 |
| Calories | Gms. | Gms. |
| Protein | 55 | 65 |
| Fat | 55 | 55 |
| Carbohydrates | 275 | 260 |

*Cereals include wheat, rice, bread, jowar, milo, bajra and ragi etc.

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## APPENDIX XXX—*contd.*

### *General Diets for Children—Liquid Milk Diet*

### I. (*From Birth Six Months*)

| | |
|---|---|
| **Cows or toned milk** | **1 litre** |
| **Egg** | **One** |
| **Sugar** | **50 gms.** |
| **Orange** | **One** |
| **Fuel** | **½ K.G.** |
| **Provides—** | |
| **Calories** | **950** |
| **Protein** | **38 gms.** |
| **Fat** | **48 gms.** |
| **Carbohydrate** | **100 gms.** |

### II. (*From 6 Months to 3 Years*)

| | |
|---|---|
| **Milk** | **1 litre** |
| **Bread** | **50 gms.** |
| **Egg** | **One** |
| **Orange** | **One** |
| **Banana** | **One** |
| **Butter** | **10 gms.** |
| **Sugar** | **50 gms.** |
| **Fuel** | **½ K.G.** |
| **Provides—** | |
| **Calories** | **1,150** |
| **Protein** | **40 gms.** |
| **Fat** | **55 gms.** |
| **Carbohydrate** | **125 gms.** |

### III. (*Age above three years*)

| | |
|---|---|
| **Milk** | **1·25 litres** |
| **Bread** | **50 gms.** |
| **Butter or** | **10 gms.** |
| **Egg** | **One** |
| **Sugar** | **50 gms.** |
| **Orange or** | **One** |
| **Banana** | **One** |
| **Tea** | **7 gms.** |
| **Salt** | **10 gms.** |
| **Green & other leafy vegetables** | **150 gms.** |
| **Potatoes (for soup)** | **50 gms.** |
| **Fuel** | **½ K.G.** |
| **Provides—** | |
| **Calories** | **1450** |
| **Protein** | **50 gms.** |
| **Fat** | **65 gms.** |
| **Carbohydrates** | **160 gms.** |

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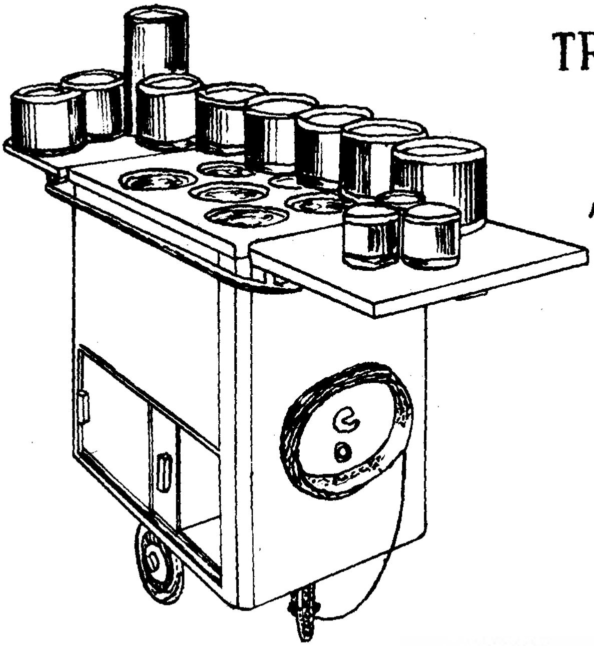
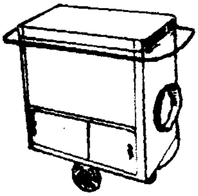
APPENDIX XXXI

# TROLLEYS



A



B

C

TROLLEYS: 'TECO' FOOD TROLLEYS are ideal for decentralised
iple area feeding, where the main problem is feeding large
s in separate dining areas, like in hospital wards, factory
ons, schools, etc. which are located at a distance from
entral kitchen.

RUCTION
le Iron Framework.
inless steel or Aluminium panels.
inless steel or Aluminium top.
ities for food containers upto 10" dia and upto 12" deep ar
orporated with the top. Plain trolleys are also available.
d containers can be taken out for easy cleaning.

sed rims to prevent food spilled on top from falling back
o the containers.

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## APPENDIX XXXVIII

## PER CAPITA EXPENDITURE ON HEALTH

| States | Per capita expenditure on Health | |
|---|---|---|
| | 1962-63 | 1963-64 |
| | Rs. | Rs. |
| 1. Andhra Pradesh | 2·38 | 2·88 |
| 2. Assam | 3·69 | 3·34 |
| 3. Bihar | 1·43 | 1·72 |
| 4. Gujarat | 1·94 | 2·30 |
| 5. Jammu & Kashmir | 3·83 | 4·14 |
| 6. Kerala | 3·72 | 3·70 |
| 7. Madhya Pradesh | 2·71 | 2·27 |
| 8. Madras | 2·78 | 3·03 |
| 9. Maharashtra | 2·78 | 2·96 |
| 10. Mysore | 3·16 | 2·58 |
| 11. Orissa | 2·28 | 3·21 |
| 12. Punjab | 2·39 | 2·57 |
| 13. Rajasthan | 2·80 | 3·80 |
| 14. Uttar Pradesh | 1·37 | 1·50 |
| 15. West Bengal | 3·18 | 3·33 |
| 16. Central Government | 0·23 | 0·25 |
| General Average | 2·59 | 2·85* |

*Includes the per capita expenditure of Nagaland, and Union Territories of Goa, Daman & Diu, Himachal Pradesh, Manipur, Pondicherry and Tripura for which separate per capita expenditure is not shown in the above table.

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## APPENDIX XXXIX

## EXPERIENCE OF WEST BENGAL GOVERNMENT IN RUNNING 'AFTERNOON PAY-CLINIC' IN CALCUTTA

Statement showing the total number of patients treated and various other investigations done in the different Afternoon Pay Clinics of Calcutta i.e. (1) A.P.C. of R.G. Kar Medical College Hospital, Calcutta (opened on 14-10-63), (2) A.P.C. of Seth Sukhlall Karnani Memorial Hospital, Calcutta (opened on 15-10-63), (3) A. P. C. of Chittaranjan Hospital, Calcutta (opened on 1-2-64), (4) A.P.C. of M. R. Bangur Hospital Tollygunge, Calcutta (opened on 1-6-65) during the year 1965.

| | |
|---|---|
| (1) Total number of patients treated during the year 1965 | 56,357 patients |
| (2) Specialist Examination done in 1965 | 47,142 patients |
| (3) Ordinary Examination done in 1965 | 9,215 patient |
| (4) Total number of Pathological & Bio-chemical Examination done in 1965 | 15,418 patients |
| (5) Total number of X-ray taken in 1965 | 6,011 patients |
| (6) Annual Expenditure | Rs. 4,28, 114·51. P |
| (7) Annual Income | Rs. 2,89,248·00 P. |

## APPENDIX XL

# FINANCIAL IMPLICATIONS OF HEALTH INSURANCE SCHEME IN URBAN AREAS (ON THE EXISTING PATTERN OF CENTRAL GOVERNMENT HEALTH SCHEME).

1. Facilities to be provided—
   - (*i*) Consultation
   - (*ii*) Medicine
   - (*iii*) Dressings
   - (*iv*) Home Visits
   - (*v*) Laboratory service
   - (*vi*) Specialists service.

| | |
|---|---|
| 2. Population to be covered (Say) | 65,500 or 12,500 families |
| 3. No of Dispensary Unit (@ one per 2,500 families) | 5 |
| 4. No. of peripheral specialist Centres (@ one per 5 dispensaries) | 1 |
| 5. No. of Clinical Laboratories (@ one per 5 dispensaries) | 1 |
| 6. Requirement of medical and para medical staff— | |
| (*i*) G.D.M.O.'s (5 per dispensary) | 25 |
| (*ii*) Specialists (Medical) | 2 |
| (*iii*) Specialists (Surgical) | 1 |
| (*iv*) Specialists (Eye) | 1 |
| (*v*) Specialists (ENT) | 1 |
| (*vi*) Specialists (Psychiatry) | 1 |
| (*vii*) Specialists (Dental) | 1 |
| (*viii*) Specialists (Gynae) | 1 |
| (*ix*) Specialists (Skin) | 2 |
| (*x*) Nurses (@ 2 per dispensary) | 10 |
| (*xi*) Dispensers (@ 4 per dispensary) | 20 |
| (*xii*) Laboratory Technician (@) 2 per laboratory) | 2 |

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7. Financial Implications—

| Items of cost | Number | Total cost | Cost per family |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| | | Rs. | Rs. |
| (*I*) *Headquarters*— | | | |
| Staff and other miscellaneous | | 37,500·00 | 3·00 |
| (II) *Dispensary Service*— | | | |
| (*a*) Consultation— | | | |
| (*i*) General Duty Medical Officers | 25 | 1,89,750·00 | 15·18 |
| (*ii*) L.D.Cs. | 10 | 22,620·00 | 1·81 |
| (*iii*) Nurses | 10 | 29,820·00 | 2·38 |
| (*iv*) Peons | 10 | 14,760·00 | 1·18 |
| (*v*) Female Attendants | 5 | 7,980·00 | 0·64 |
| Sub-total | | 2,64,930·00 | 21·19 |

## APPENDIX XL—*contd.*

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| | | Rs. | Rs. |
| (*b*) Dispensary— | | | |
| (*i*) Pharmacists including Storekeepers .. | 20 | 50,280·00 | 4·02 |
| (*ii*) Medicines .. .. .. | .. | 6,25,000·00 | 50·00 |
| Sub-total .. | | 6,75,280·00 | 54·02 |
| (*c*) Dressings— | | | |
| (*i*) Dressers .. .. .. | 10 | 15,960·00 | 1·28 |
| (*ii*) Nursing Orderlies.. .. .. | 5 | 7,380·00 | 0·59 |
| Sub-total .. | | 23,340·00 | 1·87 |
| (*d*) Maintenance of Dispensary— | | | |
| (*i*) Sweepers .. .. .. | 10 | 14,760·00 | 1·13 |
| (*ii*) Chowkidars .. .. .. | 5 | 7,380·00 | 0·59 |
| (*iii*) Other charges .. .. .. | .. | 37,500·00 | 3·00 |
| Sub-total .. | | 59,640·00 | 4·72 |
| (III) *Laboratory Services*— | | | |
| Laboratory Technicians .. .. .. | 2 | 5,964·00 | 0·47 |
| (IV) *Domiciliary Visits*— | | | |
| Conveyance allowance @ Rs. 120 p.m. per G.D.M.O. .. .. .. .. | .. | 36,000·00 | 2·88 |
| (V) *Specialists Service*— | | | |
| Specialists .. .. .. .. | 10 | 1,47,600·00 | 11·80 |
| Total .. | | 12,50,254·00 | 100·00 |

*Non-recurring*—

| | |
|---|---|
| Medicine (initial stock) .. .. .. | Rs. 8,000·00 per dispensary |
| Furniture & Equipment .. .. .. | Rs. 7,000·00 per dispensary |
| Specialists Centres .. .. .. | Rs. 5,000·00 per specialist |
| Laboratories .. .. .. .. | Rs. 5,000·00 per specialist |

8. Contribution (Receipt) (20% of the recurring expenditure) .. .. .. .. Rs. 2,50,000·00 P.

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## APPENDIX XLI

# FINANCIAL IMPLICATION OF HEALTH INSURANCE SCHEME IN RURAL AREAS

1. Facilities to be provided—
   - (*i*) Consultation
   - (*ii*) Medicine
   - (*iii*) Home Visits
   - (*v*) Laboratory Service
   - (*vi*) Domiciliary mid-wifery

| | |
|---|---|
| 2. Population to be covered .. .. .. | 5,000 (or 1,000 families) |
| 3. Dispensary Unit .. .. .. .. | 1 |
| 4. Requirements of staff— | |
| (*i*) G.D.M.Os. .. .. .. .. | 2 |
| (*ii*) Dispensers .. .. .. .. | 2 |
| (*iii*) Auxiliary Nurse/Midwife .. .. | 1 |
| (*iv*) Lab. Technician .. .. .. | 1 |
| (*v*) Peon .. .. .. .. | 1 |

5. Finacnial implications—

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| Items of cost<br>1 | Number<br>2 | Total cost<br>3 | Cost per family<br>4 |
|---|---|---|---|
| (I) *Consultation*— | | Rs. | Rs. |
| (*i*) G.D.M.Os. (@ Rs. 500 p.m.) .. .. .. | 2 | 12,000 | 12·00 |
| (*ii*) Peon (Rs. 100 p.m.) .. .. .. .. | 1 | 1,200 | 1·20 |
| (*iii*) Other expenditure .. .. .. .. | .. | 1,200 | 1·20 |
| Sub-total .. | | 14,400 | 14·40 |
| (II) *Dispensing and Dressing*— | | | |
| (*i*) Dispensers (@Rs. 150 p.m.) .. .. .. | 2 | 3,600 | 3·60 |
| (*ii*) Medicines .. .. .. .. .. | .. | 20,000 | 20·00 |
| (*iii*) Other expenditure .. .. .. .. | .. | 1,000 | 1·00 |
| Sub-total .. | | 24,600 | 24·60 |
| (III) *Domiciliary Midwifery*—<br>Auxiliary Nurse Midwife .. .. .. .. | 1 | 1,800 | 1·80 |
| (IV) *Laboratory Services*—<br>Laboratory Technician .. .. .. .. | 1 | 1,800 | 1·80 |
| (V) *Domiciliary Visits*—<br>Conveyance allowance (@ Rs. 100 per G.D.M.O.) .. | .. | 2,400 | 2·40 |
| Total .. | | 45,000 | 45·00 |

6. *Non-recurring*—

| | |
|---|---|
| Medicines .. .. .. | Rs. 3,000 |
| Furniture and equipment .. | Rs. 5,000 |
| | Rs. 8,000 |

*Receipts*—

| | |
|---|---|
| (Roughly @ 20% of the total recurring expenditure) .. | Rs. 9,000 |

## APPENDIX XLII

# MYSORE HEALTH CESS ACT, 1962

GOVERNMENT OF MYSORE

LEGISLATIVE DEPARTMENT

*Mysore Act No.* 28 *of* 1962

(First published in the Mysore Gazette on the Twenty-fourth day of September 1962)

## THE MYSORE HEALTH CESS ACT, 1962

(Received the assent of the Governor on the Twenty-second day of September 1962)

An Act to provide for the levy of health cess on certain items of revenue in the State of Mysore.

WHEREAS it is expedient to provide for the levy of a health cess on certain items of revenue in the State of Mysore;

BE it enacted by the Mysore State Legislature in the Thirteenth Year of the Republic of India as follows:—

1. *Short title, extent and commencement*—(1) This Act may be called the Mysore Health Cess Act, 1962.

(2) It extends to the whole of the State of Mysore.

(3) It shall be deemed to have come into force on the first day of April 1962.

2. *Definition*—In this Act—

(1) "local authority" means a municipal corporation, a municipal committee, a town committee, a municipal council, a borough municipal council, a sanitary or town board, a notified area committee, a taluk development board, a village panchayat or any authority established for the purpose of local self government or village administration;

(2) "notification" means a notification published in the official Gazette.

3. *Levy of health cess*—There shall be levied and collected a health cess at the rate of nine naye paise in the rupee on:

(i) all items of land revenue;

(ii) the items of State Revenues mentioned in Schedule A;

(iii) the items of taxes mentioned in Schedule B levied under any law for the time being in force by a local authority.

4. *Recovery of health cess*—The health cess payable under section 3 shall be levied, assessed and recovered along with the items of land revenue. State revenue or tax on which such cess is levied, and the provisions of the law and the rules, orders and notifications made or issued thereunder for the time being in force, shall apply to the levy, assessment and recovery of the health cess as they apply in respect of the levy, assessment and recovery of the said items of land revenue, State revenue or tax.

5. *Cess to be collected to the nearest naya paisa*—In the determination of the amount of health cess payable under this Act, fractions of a naya paisa less than half a naya paisa shall be disregarded and fractions of a naya paisa equal to or exceeding half a naya paisa shall be regarded as one naya paisa.

6. *Levy of cess under other Acts not affected*—Nothing in this Act shall affect the operation of the provisions of any other Act and the levy of the health cess under this Act is in addition to, and not in lieu of, anyother duty or cess that may be levied under any other law for the time being in force.

7. *Power to make rules*—(1) The State Government may, by notification, make rules for the purpose of carrying out the provisions of this Act.

(2) Every rule made under this Act shall be laid, as soon as may be after it is made, before each House of the State Legislature while it is in session for a total period of thirty days which may be comprised in one session or in two successive sessions, and if before the expiry of the session in which it is so laid or the session immediately following both Houses agree in making any modification in the rule or both Houses agree that the rule should not be made, the rule shall thereafter have effect only in such modified form or be of no effect, as the case may be, so however, that any such modification or annulment shall be without prejudice to the validity of anything previously done under that rule.

8. *Repeal*—The Mysore Health Cess Act, 1951 (Mysore Act No. XVIII of 1951) is hereby repealed.

## *SCHEDULE A*

1. Duties of excise leviable by the State under any law for the time being in force in any area of the State, on the following goods manufactured or produced in the State and countervailing duties levied on similar goods manufactured or produced elsewhere.

(a) Alcoholic liquors for human consumption;

(b) Opium, Indian hemp and other narcotic drugs and narcot.

*Explanation*—The duty of excise leviable under this item includes the duties, payments, fees and other amounts payable under section 18 of the Mysore Excise Act, 1901, and similar impost or payment by whatever name called payable under any other law in force in an area of the State of Mysore.

2. Water rate leviable by the State under any law for the time being in force on water made available for agricultural or industrial purpose.

3. Tax on cinematograph shows leviable by the State under any law for the time being in force.

## *SCHEDULE B*

The following taxes leviable by local authorities under any law for the time being in force namely:—

1. Taxes on lands and buildings.
2. Taxes on vehicles.
3. Taxes on profession, trades, callings and employments.
4. Taxes on advertisements.

## APPENDIX XLIII

## RESULTS OF THE FAMILY PLANNING RESEARCH PROJECT IN LADY HARDINGE MEDICAL COLLEGE, 1962—65

I. *House Surgeons*—

(i) 50 per cent of them had never referred any case to the Family Planning Clinics,

(ii) 49 per cent felt that they were not competent to provide the service,

(iii) 27 per cent of the house surgeons did not feel confident to talk about family planning to their patients,

(iv) None of the house surgeons could visualise family planning in its broadcast aspect. Only 45 per cent of them described it as limitation and spacing of children,

(v) 40 per cent of the house surgeons mentioned specifically the effects of repeated pregnancies influencing health,

(vi) 17.5 per cent house surgeons were completely ignorant about the services provided by the family planning clinic,

(vii) 50 per cent of house surgeons had never visited family planning clinic during the period of their internship.

II. *Nurses*—

(i) Only 16 per cent of the nurses had the knowledge of the wide concept of family planning, namely spacing, limitation and family welfare.

(ii) Only 16 per cent of them had the knowledge about all the methods of contraception and 28 per cent of them did not have any knowledge of these methods.

(iii) 28 per cent of the nurses failed to see the needs of family planning in a patient from the point of view of health.

(iv) 18 per cent of the nurses had doubts about family planning advice which was mainly due to the lack of knowledge on the subject.

(v) 54 per cent of them said that lack of knowledge and lack of time were the reasons for their inability for providing services.

(vi) 66 per cent of the nurses felt that they were not competent to provide services.

## APPENDIX XLIV

# ACTIVITIES TO BE CARRIED OUT BY A DOCTOR IN RELATION TO FAMILY PLANNING ADVICE AS OF PATIENTS' CARE

Often the question has been posed as to how family planning service, which is a part of the medical care given to a patient, be made more effective in a hospital.

The following guideline is suggested to indicate the activities that can be undertaken to stimulate thinking and promoting family planning services:—

*Activities in relation to patients care*

| Opportunities for giving F.P. advice | Activities to be carried out | Documentation | Information to be given to the patient |
|---|---|---|---|
| 1. At the time of admission— | | | |
| Identifying the need for F.P. | While taking a case history in relation to—<br>(*a*) age<br>(*b*) Parity<br>(*c*) Disease condition | Recording the diagnosis and indicating the type of advice for—<br>(*a*) spacing<br>(*b*) limitation<br>(*c*) sterilization<br>(*d*) Vasectomy | |
| 2. During the stay of the patient— | | | |
| Ward rounds .. | 1. Inquiry about previous exposure to F.P. methods.<br>2. Instructions to the patients for F.P. advice. | Advice given or not given. | Advise spacing or limitation, depending on the need of the patient relating it to her clinical condition, so as to—<br>(*i*) prevent flaring-up of the disease.<br>(*ii*) to avoid recurrence of the disease.<br>(*iii*) to regain her normal health |
| Repeat visits in the ward. | Instructions to the patient for F.P. advice. | Acceptance or non-acceptance. | Explain sterilization operation or contraceptive methods as need be. |
| | (*a*) Referral of the ambulatory motivated cases to the F.P. Centre. | To be recorded on the case history. | Referred to F.P. Centre for demonstration of contraceptive methods. |
| | (*b*) Refer the difficult cases to the F.P. worker. | Record such cases preferably in a register kept in the ward. | |
| | (*c*) Instruct the nurse for referral of such cases. | | |
| Talking to the patients' husband. | Indicating the importance of F.P. in relation to wife's condition. | Husband cooperative or not cooperative. | (*i*) to familiarise him with the clinical diagnosis of his wife.<br>(*ii*) to correlate the need for F.P. with the disease conditions. |
| 3. At the time of discharge. | Instructions for further follow-up visits. | To fill in the F.P. referral slips alongwith the discharge slip. | To inform about timings and whereabouts of the Centre. |

## APPENDIX XLV

## THE EXPECTED ROLE OF A NURSE

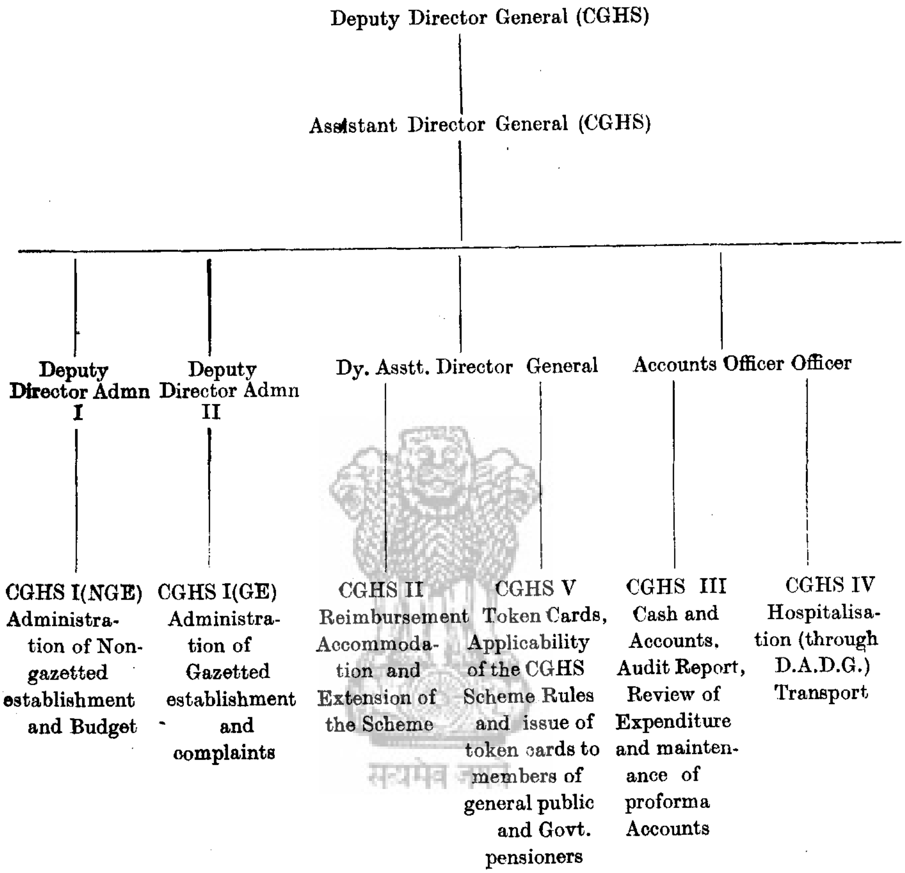
The role a nurse could play in the family planning education programme is divided in three phases of patients' stay in the hospital:—

(a) At the time of patient's admission,
(b) During patient's stay in the ward,
(c) At the time of discharge of the patients.

| Opportunities for Health Education for Family Planning in the wards | Activities to be carried out | Contents of the information to be given |
|---|---|---|
| 1. During admission—<br>To note down the need for family planning for the patients. | To indicate needy patients to the doctors whenever required. | |
| 2. During stay of patient in the ward. | To give pamphlets which are kept in the ward to the literate patients. | |
| | To give information regarding family planning to patients. | (a) Meaning of family planning spacing or limitation (as the need be). |
| | To clear the doubts and fears of patients and motivate them. | (b) That she can gain and maintain her health if she spaces her pregnancies, limits her family. |
| Opportunities for Health Education for Family Planning in the wards. | Activities to be carried out | Contents of the information to be given. |
| | | (c) That there are number of methods available namely contraceptives, I.U.C.D. and sterilization.<br>(d) Further advice can be obtained from Family Planning Welfare Centre.<br>(e) Contraceptives are given free of charge. |
| | Referring patients to the family planning clinic (if patient's condition allows). | |
| | To take the help of family planning workers for motivating difficult or resistant cases. | |
| | To contact the husbands of the patients—to talk to them about family planning, to give them letter indicating the need for family planning. | That it is important to space or limit children for the health of his wife. That there are methods which could help them to plan their family. That his wife has been already told about it and he has to discuss it with her and give their decision to the Doctor or Nurse. |
| At the time of discharge | To finally remind the couple about attending the Centre and following the advice regularly. | To attend the Family Planning Centre during their postnatal check up visit. To let them know the situation of the Centre and the timings of the Centre. |
| | To give referral slip for family planning Centre alongwith the discharge slip. | To instruct them to carry the referral slip to the Centre for the advice. |

## APPENDIX XLVI

## ADMINISTRATIVE SET-UP OF CENTRAL GOVERNMENT HEALTH SCHEME (AS ON 29-2-1968)


Deputy Director General (CGHS)
Assistant Director General (CGHS)
Deputy Director Admn I
Deputy Director Admn II
Dy. Asstt. Director General
Accounts Officer
CGHS I(NGE) Administration of Non-gazetted establishment and Budget
CGHS I(GE) Administration of Gazetted establishment and complaints
CGHS II Reimbursement Accommodation and Extension of the Scheme
CGHS V Token Cards, Applicability of the CGHS Scheme Rules and issue of token cards to members of general public and Govt. pensioners
CGHS III Cash and Accounts, Audit Report, Review of Expenditure and maintenance of proforma Accounts
CGHS IV Hospitalisation (through D.A.D.G.) Transport

| *Designation* | CGHS I(NGE) | CGHS I(GE) | CGHS II | CGHS V | CGHS III | CGHS IV |
|---|---|---|---|---|---|---|
| 1. Section Officer | 1 | 1 | 1 | 1 | .. | 1 |
| 2. Accountant | .. | .. | .. | .. | 2 | .. |
| 3. Assistant | 2 | 2 | 2 | 1 | 2 | 1 |
| 4. U.D. Clerks | 4 | 3 | 2 | 2 | 4 | 2 |
| 5. L.D. Clerks | 3 | 1 | 6 | 10 | 5 | 3 |
| 6. Daftries | ½ | ½ | ½ | 1 | 1 | ½ |
| 7. Peons | ½ | ½ | ½ | 1 | 2 | ½ |

Medical Statistician along with his Section is under the technical and administrative control of Director, Central Bureau of Health Intelligence but working mainly for the Central Government Health Scheme.

## APPENDIX XLVII

# PROGRESS OF CENTRAL GOVERNMENT HEALTH SCHEME AT A GLANCE

| Year | No. of families covered | No. of beneficiaries | No. of dispensary | | No. of medical officers (sanctioned) | No. of specialists (sanctioned) | Total attendance |
|---|---|---|---|---|---|---|---|
| | | | Static | Mobile | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1954 (1-7-54 to 31-12-54) | 49,556 | 2,23,000 | 16 | .. | 29 | 11 | 7,73,572 |
| 1955 | 60,854 | 2,73,844 | 16 | 3 | 69 | 20 | 23,14,678 |
| 1956 | 71,140 | 3,20,128 | 19 | 3 | 81 | 20 | 29,62,265 |
| 1957 | 89,956 | 4,04,800 | 21 | 3 | 96 | 20 | 32,50,930 |
| 1958 | 95,000 | 4,27,500 | 26 | 3 | 161 | 30 | 37,14,981 |
| 1959 | 1,01,333 | 4,56,000 | 34 | 4 | 195 | 33 | 47,38,920 |
| 1960 | 1,05,711 | 4,49,270 | 38 | 3 | 195 | 33 | 47,43,968 |
| 1961 | 1,14,978 | 4,88,656 | 40 | 3 | 254 | 36 | 53,06,096 |
| 1962 | 1,23,155 | 5,23,408 | 45 | 2 | 293 | 36 | 58,27,007 |
| 1963 | 1,35,882 | 5,77,499 | 47* | 2 | 293 | 36 | 65,20,452 |
| 1964 | 1,36,558 | 5,80,372 | 47* | 2 | 296 | 47 | 66,19,579 |
| 1965-66 | 1,37,521 | 5,84,753 | 50† | 2 | 335 | 54 | 44,46,144 |
| 1966-67 | 1,45,370 | 6,18,156 | 52† | 2 | 335 | 50 | 70,29,799 |

*Including one Ayurvedic Dispensary.

†Including two Ayurvedic Dispensaries.

| Year | Sickness rate of attendance per 100 beneficiaries per day | Total Expenditure (Rs.) | Expenditure on medicines (Rs.) | Contributions |
|---|---|---|---|---|
| 1 | 9 | 10 | 11 | 12 |
| 1954 (1-7-54 to 31-12-54) | 2·31 | 7,57,773 | Not available | Not available. |
| 1955 | 2·82 | 22,12,334* | 13,54,666 | 16,55,601 |
| 1956 | 3·08 | 31,53,660* | 18,38,274 | 20,90,119 |
| 1957 | 2·68 | 35,37,738* | 16,67,207 | 23,46,444 |
| 1958 | 2·90 | 46,19,960* | 24,51,336 | 25,93,000 |
| 1959 | 2·98 | 55,07,674 | 27,52,193 | 29,12,851 |
| 1960 | 3·52 | 66,65,356 | 31,52,521 | 33,25,261 |
| 1961 | 3·62 | 83,63,686 | 42,06,092 | 39,57,752 |
| 1962 | 3·71 | 1,03,94,160 | 56,96,185 | 41,76,767 |
| 1963 | 3·83 | 1,08,01,112 | 61,27,855 | 54,14,298 |
| 1964 | 3·87 | 1,28,37,731 | 72,96,949 | 58,23,621 |
| 1965-66 | 3·82 | 1,46,58,403† | 80,91,749 | 70,68,806 |
| 1966-67 | 3·83 | 1,59,39,065 | 83,43,006 | 81,97,570 |

*Excluding Expenditure on Headquarter establishment.

†These figures do not include indirect expenditure like cost of hospitalisation in Central Government Hospitals, rent on Government buildings and expenditure on printing and stationery.

## APPENDIX XLVIII

## STANDARDIZATION OF HOSPITAL EQUIPMENT*

A need for uniform standards of surgical instruments and other hospital requirements existed for quite some time. Equipment meant for the same purpose varied, depending upon the source of supply, in size, performance, interchangeability etc. It was, therefore, rightly recommended by two committees, namely Dr. U. Krishna Roa's Committee in the year 1953 and the Advisory Committee for Medical Instruments Equipment and Appliances of the then Ministry of Commerce and Industry in the year 1962 for standardizing the instruments and equipment at a national level. The Indian Standards Institution has taken up this work in the year 1963.

Generally speaking the work of this Institution has, to a certain extent, a bearing on hospital requirements and it is hoped that various hospitals, health departments and similar other institutions are taking advantage of the standards prescribed. In order that these Institutions benefit from the standardization work on instruments equipment and appliances, a brief account of the work in this regard is given herein.

A technical committee on Surgical Instruments has been active on instruments for different faculties such as general surgery, ENT, eye, thoracic, neuro-surgical, plastic surgery, cardio and other instruments, including precision types involved under each category. Important aspects of inter-changeability e.g. the fitting between syringes and needless scalpels and their handles types of joints of instruments, the ratchet adjustment, holding serrations and teeth etc. have already been standardized. Upto this period standard specifications published include the more important and common items such as surgical scalpels, knives, dissecting and artery forceps, aural and nasal forceps, hooks and specula scissors for plastic surgery, eye, dressing and stitch etc. From the programme of this committee, it will be seen that the committee has vast number of instruments for standardization, the more important ones being under examination. The committee did not go purely by the conventional designs of instruments but after careful examination and the convenience of the surgeons using them decided on certain types,.sizes and performance. The standards when implemented in the manufacture and inspection should give the surgeons uniform, acceptable and convenient type of instruments.

Similar to surgical instruments, the medical glass instruments used for medical and pathological work needed attention. The I.S.I. Committee on medical glass appliances standardize the most used hypodermic syringe. To enable big hospitals to eliminate selective fitting of syringe components a standard on dimensions of interchangeable type of hypodermic syringes are sterilized at one time to avoid selective fitting and thus save valuable time and energy. For pathological work, the standards that have been finalised include glass instruments, tubes, pipetts, bottles etc.

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*This note was submitted by Indian Standards Institution, New Delhi.

The importance of anaesthesia and resuscitation apparatus can be judged from the fact that this subject is being tackled at international level for the purpose of providing uniform standards all over the world. A technical committee on this subject at national level which, of course, is liaisoning with corresponding international committee had also taken up on its own programme all the subjects which the international committee is dealing. Important diagnostic equipment like stethescope blood pressure apparatus, Laryngoscope etc., basic items such as airways, endotracheal connections, suction apparatus oxygen tent units have also been standardized.

Hospital furniture and other equipment being no less important than instruments has a separate technical committee. The committee first covered important items like sterilizers, dressing drums, incubators, water stills. A number of equipment such as patient's trolleys, stretcher trolleys, bedside lockers, screens, soiled linen trolleys etc. have also been standardized. A number of hospital furniture items are under active examination.

A technical commitee on Dental equipment has under its examination the dental electric engines, spittoons, cable arm and treble-section arm foot-operated dental machines etc. and the performance requirements being laid down should help the dental surgeons in choosing the right type of equipment.

Surgical dressings Committee, though not having a big field, is trying to standardize self-adhesive plasters, various types of bandages, sanitary towels etc. The work of this Committee goes hand in hand with the similiar work by the Indian Pharmacoepia.

Dental Instruments Committee like its counter-part on surgical instruments has standardized basic and the more important instruments and has under study a number of common variety of instruments, all of which need standardization.

Artificial limbs, though a difficult item for standardization, have been taken up as performance and interchangeable characteristics required attention. At present production of artificial limbs is confined to a few places, the main source being Artificial Limb Centre, Ministry of Defence, Poona. It is expected that within a very near future, there would be about five large rehabilitation centres in major cities of the country assisted by over 30 rehabilitation units spread all over the country. In order to cater to their needs, therefore, the committee has taken up work on terminal devices of artificial hands, limbs such as fore-arms, ankle joints knee and other similar joints, dynamic splints suspension mechanism, complete limbs, feet and surgical aids. Some standards on terminal devices will be published shortly while all the other items are under scrutiny.

The Glass-ware Committee has brought out a number of standards on ampuls, vaccine phials, medicinal bottles, pencillin vials, glass bottles for transfusion fluids and clinical thermometers.

On the rubber products, standards covering hot water bottles, ice bags, rubber closures, candoms, surgical and post-mortem gloves, have already been brought out while rubber tubing for medical use and a number of rubber components for transfusion fluids, blood pressure apparatus, foot-wear dressing gloves etc. are under study.

On the textile side, standards, have been formulated on gauze, lint and bandage cloth. To help anaesthetists, the Gas Cylinders Committee has brought out standards for valve connections for medical cylinders, colour identification of cylinders, code of practice for handling medical glass cylinders etc. On clinical side, a number of optical instruments such as microscopes, lenses, microscope slides etc. have also been standardised. Subjects such as Bronchoscopes, Oesophagoscopes etc. are under scrutiny.

The various Committees of the Indian Standards Institution are at present giving their attention to the following subjects:—

1. Classification and Nomenclature of Surgical Instruments and Medical Appliances Sectional Committee, CPDC 10
2. Surgical Instruments Section Committee, CPDC 11
3. Medical Glass Instruments and Appliances Sectional Committee, CPDC 12
4. Anaesthesia, Resuscitation and Allied Equipment Sectional Committee, CPDC 13
5. Hospital Equipment Sectional Committee, CPDC 14
6. Dental Equipment Sectional Committee, CPDC 15
7. Surgical Dressing Sectional Committee, CPDC 19
8. Artificial Limbs Sectional Committee, CPDC 20
9. Dental Instruments Sectional Committee, CPDC 21
10. Standards under Mechanical Engineering Division Council (EDC)
11. Standards under Chemical Division Council (CDC)
12. Glassware Sectional Committee, CDC 10
13. Plastic Sectional Committee, CDC 17
14. Coal Corbonization Products
15. Apparatus Sectional Committee, CDC 33
16. Standards under Structural and Metals Division Council (SMDC)
17. Standards under Textile Division Council (TDC)

*N.B.*——The Indian Standards Institution New Delhi may be contacted for further details.

## APPENDIX XLIX

# HOSPITAL PLANNING

(SHRI J. D. SHASTRI, *Senior Architect—Directorate General of Health Services, New Delhi*).

*Location*—Right location is very important for hospitals and it should be given first consideration in hospital planning.

In the past there was a tendency to locate hospitals in quiet places far away from the centre of town and cities. Hospitals now provide a variety of facilities such as domiciliary & preventive care, health education and training of health workers in addition to usual diagnosis and treatment. These facilities should be available to the community as near as possible i.e. in the midst of concentrated habitations.

*Site Selection*—Along with location there are other considerations for selecting sites for hospitals. They are—

(a) Access should be easy; there should be good roads. Public transport should be available. Distance should be short.

(b) Environment should be quiet and pleasant and free from hazards of noise, smoke and smell. The direction of the prevailing wind should be such that smoke even from a distance may not be drawn towards it.

(c) Services—water, electricity and drainage should be available in an adequate quantity. Hospitals require a very large quantity of water and electricity.

(d) The site should not only be adequate to accommodate present requirements but also to cater for future expansion.

## PRINCIPLES OF PLANNING

Planning should not only be in conformity with the site but should follow certain basic principles about traffic and circulation, location and relation between departments and allow scope for adjustments and future expansion.

The circulation routes on the site and traffic within the buildings should be short and direct and should not clash or cross each other.

The main departments of a hospital are O.P.D., casualty, diagnostic and treatment facilities like laboratory & X-ray operation theatres and delivery suites, inpatient wards and kitchen and stores.

O.P.D. and casualty should be near the entrance.

Laboratory and X-ray services should be centrally between O.P.D. and inpatient wards.

Operation theatre and delivery suites should be in a quieter place but near the wards and with easy access to laboratory and X-ray.

Wards should be in quiet location and have an atmosphere of rest and confidence.

Kitchen and stores should be able to receive materials from outside directly and deliver them at various points inside conveniently and without causing nuisance of smoke and smell. Long and circuitous routes should be avoided.

Medical concepts are changing rapidly. Secondly every hospital grows—therefore planning should leave enough scope for adjustments and expansion.

In the past there was a tendency to plan imposing structure for hospitals to make them look like "temples of healing". It is now considered that hospital should emphasize its intimate relation with the community and should visually present a human and personal character. While entering a hospital the patient should be visually assured of the care and sympathy he is to get instead of being oppressed with huge masses of buildings and imposing forms.

Human scale and character are generally achieved by low buildings and by creating clusters of blocks of varying heights. Thus the best method is to have low building for O.P.D. and facilities which are likely to expand and tall buildings for wards where the units are repetitive and where services can be concentrated and moving distances minimised.

*Land Requirements*—The amount of land required for hospitals depends on the type of blocks mentioned above and the bed strength and future scope of expansion. It is not enough to provide for hospital buildings only. Accommodation for nurses, house surgeons and registrars must be provided in the compound itself in the form of hostels. Similarly certain essential staff should also be provided with communal facilities for recreation, shopping and education of children.

The land required for different types of hospitals is indicated later along with other details.

*Cost and Areas*—It has been a practice in the past to consider the cost of hospital as so many rupees per bed. The costs however vary from place to place and according to structure and the material used. The yardstick of cost per bed is thus misleading. It would be better to have a yardstick of "area per bed" for different type of hospitals. The area per bed may also vary in relation to the extent of diagnostic treatment and other ancillary facilities are provided but a mean can be arrived at from the available plans. Once the areas are laid down it is easy to work out cost at the place where the hospital is going to be built.

The areas for three categories of hospitals is indicated later along with other details.

*Type of Hospitals*—The hospitals can be very broadly divided into four categories viz. (a) Rural hospital or health centre with 10 beds; (b) Tehsil hospital with 50 beds; (c) District hospital with 200/500 beds; and (d) Teaching hospitals with 500 or more beds. Some details and illustrative plans are given below:

*Rural Health & Health Centre* (Drg. No. Misc. 382, placed at Appendix XXXIV-D)—The Health Centre is planned into two blocks.

The front block provides O.P.D. with two consultation and examination rooms, one each for a male and a female doctor. There is a separate space for health workers who would be looking after domiciliary and preventive work. Other facilities provided are dispensary, dressing, laboratory and general & sanitary stores. Special facilities are provided for family planning work, demonstration, extension educator and other field workers of family planning.

The rear block accommodates 10 beds out of which 4 each are for male and female and two for isolation and or observation. There is also space for routine delivery. Courtyards and separate lavatories are provided for male and female patients.

It is advisible to provide residences for all staff required at headquarters in a rural area because otherwise it would be difficult to get staff.

Among the services, bore hole latrines or W.Cs with septic tanks and storage for drinking water should be provided. Electricity may be provided where available.

The land required would be about 4 to 4 acres as all buildings would be single storeyed. The land can be reduced if the residences are made double storeyed. This can be done where more land is not available in a village near houses. Siting of health centres in desolated places is inconvenient and creates problems of security.

The area covered by the two blocks would be about 3,200 sq. ft. plus a garage of 250 sq. ft.

The residence may be according to the scale of accommodation prevalent in the area. In all, fifteen persons require accommodation.

*Tehsil Hospital* (Drg. No. Misc. 503 placed at Appendix XXXV)—Tehsil hospital is planned in five blocks; three blocks one after another in front and two blocks at side.

The front three blocks accommodate O.P.D., casualty, X-ray, laboratory and stores; and operation theatre and delivery respectively.

The two side blocks accommodate inpatient beds and kitchen and bulk stores.

The X-ray, laboratory and operation and delivery facilities are centrally between the O.P.D. and beds.

The number of beds provided are 20 female, 30 male and 3 single with attached lavatories. The beds are in units of 6, 4 and 2. A separate room is provided for isolating a serious or a dying case. Separate day-spaces for male and female are also also provided for the use of ambulatory patients and visiting relations and friends.

All blocks are single storeyed. Bed strength can be increased by adding a floor or buiding another ward block at side. There is scope for expanding O.P.D. and other facilities sideways.

The total area covered is about 25,000 sq. ft. which gives 500 sq. ft.. per bed without counting 3 single beds. Mortuary and garages would be additional.

A staff of 41 has been recommended for a 50 bed hospital out of which nurses, ayahs, ward boys and sweepers would be about 25. In addition to this, residential accommodation for at least 10 should be provided in double storeyed structure along with the hospital. The land required would be about 6 to 7 acres.

*District Hospital* (Drg. No. GH/89 placed at Appendix XXXVI)—District hospital has been planned to demonstrate the recent ideas about grouping the buildings into a cluster and giving visual identity to different sections.

The whole hospital has been divided into ten sections:

(i) O.P.D.
(ii) Casualty.
(iii) X-ray and Electrotherapy.
(iv) Laboratory and Blood Bank.
(v) Administration.
(vi) General wards.
(vii) Paying beds.
(viii) Kitchen & stores.
(ix) Operation theatre suite.
(x) Delivery suite.

Each of these has defined locations and are at the places where they are needed.

Administration, O.P.D., Casualty and paying beds have direct access from outside. X-ray and laboratories are centrally between O.P.D. and wards. Casualty is near O.P.D. and has easy access to X-ray, laboratory and wards. Wards are at one side so that visitors traffic would not disturb the other parts of the hospital. Paying beds are also at one side but have easy access to X-ray, laboratory and operation theatre and delivery suites.

Wards have been planned in a 'T' shape with duty station at the junction of the two wings of the 'T'. This arrangement allows better supervision with minimum walking distance for the nurses. It also allows distribution of beds into three sections, with their independent sanitary facilities. Female and male beds have been separated by common care of lifts and stair-case.

Beds have been distributed according to sex and disease. Detailed allocation of 225 beds is shown on the plan. The addition of two vacant side wings would give 25 to 30 more beds to make it a 250 bed hospital. In the future side wings 100 to 150 male beds can be added.

The administration, casualty and kitchen and stores are single storeyed blocks. The O.P.D., X-ray and Laboratory and paying ward blocks are double storeyed. (Operation theatre and delivery suites are located on the first floor over X-ray and laboratory blocks). Wards are three storeyed.

The total area covered is about 1,25,000 sq. ft. exclusively of mortuary, laundry and garages but with inclusion of ramp which can be used where lifts cannot be provided easily. After deducting an area of about 10,000 sq. ft. covered by paying beds which are 10, the area per bed would come to about 450 sq. ft. After making an allowance for mortuary, laundry and garages it can be stated that an area of 500 to 550 sq. ft. per bed would be adequate and reasonable for a district hospital. (The paying beds should be considered separately on their number and facilities provided).

A staff of 231 has been recommended for a 250 bed hospital. Out of these 12 house surgeons and 55 nursing staff would require hostel accommodation. About 70 sweepers, ward boys, nursing orderlies and ayahs would be very essential. Out of the remaining 94 about 50 can be given accommodation in two and three storeyed flats. The land required for hospital building and hostels would be 7 to 8 acres and for mostly three storeyed quarters for the other staff about 3 to 4 acres. Total land required would be 10 to 12 acres.

*Teaching Hospitals*—Teaching hospitals require more space because they have to fulfil the additional function of giving specialist facilities in diagnosis and treatment and space for training and demonstration.

O.P.Ds. are larger and have more sections. Each section would have cubicles for examination by students and junior staff, space for teaching and examination for the head of the section. There would also be common seminar rooms.

Medical records require separate and adequate space in a teaching hospital.

The wards require a number of smaller units for different specialities and research work. Other additional requirements in the ward unit are: (a) greater space around beds; (b) clinical laboratory and (c) demonstration room.

Laboratory space is also required more to take care of special investigations.

The operation theatres and ancillary rooms are also more.

Adequate data is not available to indicate the covered area required for a teaching hospital. A teaching hospital should always be considered with the medical college to allow integration of teaching and research. Distances between the college, hospital and other sections are a handicap. It is not necessary to plan all the activities in a huge block. Hospital, O.P.D., X-ray, laboratory and college may have individual blocks but all of them should be so grouped that circulation among them is easy, according to the needs and not involving long distances and or cross traffic.

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# PART III—SUMMARY OF RECOMMENDATIONS

## CHAPTER IV

## ORGANISATION OF MEDICAL FACILITIES

1. In order to develop institutional facilities the following pattern is recommended to be attained by 1971:—

| | | |
|---|---|---|
| Teaching Hospitals ... | 500 | (to be increased according to the number of students). |
| District Hospitals ... | 200 | (may be raised up to 300 beds depending on population). |
| Tehsil/Taluq Hospitals ... | 50 | (may be raised depending on population). |
| Primary Health Centres ... ... | 6 | (may be increased to 10 depending on needs). |

2. The bed strength of 125 districts which have at least one 200 bedded hospital may be raised to 300 depending on the population served. In the remaining 210 districts hospitals, having less than 200 beds, the strength should be raised to a minimum of 200 beds. Ordinarily the distribution of these beds should be as under:—

| | |
|---|---|
| Medical ... ... ... ... | 60 |
| Surgical ... ... ... ... | 40 |
| Gynaecology and Obstetrics including Maternity ... ... ... ... | 35 |
| Paediatrics ... ... ... ... | 15 |
| Orthopaedics ... ... ... | 5 |
| Eye ... ... ... ... | 10 |
| E. N. T. ... ... ... ... | 10 |
| Skin ... ... ... ... | 5 |
| Emergency ... ... ... ... | 5 |
| Isolation ... ... ... ... | 10 |
| Psychiatry ... ... ... ... | 5 |
| | 200 |

3. Since the district hospital is to serve as a referral centre it should provide specialist services in Medicine, Surgery, Obstetrics, Gynaecology, Eye, E.N.T. Paediatrics, Dentistery, Psychiatry, V. D. The T.B. Clinic at the district headquarters, where it exists should work in close liaison with the district hospital and the medical officer of the clinic srould work as T.B. specialist to the district hospital.

4. Each of the 947 tehsils/taluqs, which do not have hospitals at present, should be provided with one hospital each with a minimum bed strength of 50. In other tehsils or taluqs, where the bed strength is less than 50, it should be raised to a minimum of 50. The distribution of beds should generally be; Medical=20, Surgical=15, Maternity and Gynaecology=10 and Isolation=5 beds. The tehsil/taluq hospital should be provided with three medical officers, one each for the three basic specialities i.e. Medicine, Surgery and Gynaecology and Obstetrics. The doctor-in-charge of Gynaecology and Obstetrics should preferably be a woman. She can also take charge of Maternity and Child Health work and Family Planning.

5. At Primary Health Centres, of the six beds recommended, 4 should be for maternity cases and the bed strength could be raised to ten depending on the needs.

6. The present number of beds viz. 3,18,000 should be raised to 4,20,000 in 1971 and to 6,30,200 beds in 1976, bringing the bed-population ratio from 0.61 per thousand of population as at present to 0.75 in 1971 and one bed per thousand of population by 1976.

7. A regular system of giving liberal grants-in-aid to voluntary and charitable organisations to open new teaching institutions and other institutions for giving medical care and service should be instituted on non-restrictive basis.

8. In order to make full utilisation of the beds available in hospitals/Primary Health Centres, the following measures are suggested:—

(a) When a patient no longer needs the specialised medical care of a regional or a district hospital he should be sent back to the tehsil/taluq hospital or the Primary Health Centre nearest to his residence for general treatment.

(b) Convalescent homes may be set up where chronic and incurable patients may stay on nominal payment and in case of indigent persons free of charge.

(c) Medical Inns may be set up in the vicinity of bigger hospitals, preferably by private bodies, where patients and their relatives from mofussil areas may stay on payment during the period of diagnosis; and

(d) Specialist, laboratory and diagnostic services as recommended by the Group, may be provided soon at smaller hospitals and Primary Health Centres in order to help create a climate of confidence and facilitate the working of referral system.

9. In order to provide specialist services to the people living in rural areas all teaching hospitals should be treated as regional hospitals, each serving a specified area or hinterland covering, if necessary, two to three districts. District hospitals, in areas which remain unattached to the teaching hospital, should be developed as full-fledged referral centres.

10. Cases from district hospitals should be referred to teaching hospitals, while cases from Tehsil/taluq hospitals and Primary Health Centres should be referred to District Hospitals. Primary Health Centres should refer cases to their nearest referral hospital. The referring doctor, however, may in serious cases exercise his discretion and refer the cases to the teaching/special hospitals direct. Cases unless needing hospitalisation or specialised treatment should be referred back to the originating hospitals or Primary Health Centres with proper diagnosis and instructions for further treatment.

11. In difficult areas and in areas where distances are long and means of communication difficult such as hilly districts and difficult areas like Bastar, certain tehsil/taluq hospitals should be developed as full-fledged referral centres.

12. Mobile teams of specialists from district and teaching hospitals should visit tehsil/taluq hospitals and Primary Health Centres at regular intervals to advise the doctors on cases being treated there or for the transfer of cases needing specialist care to referral hospitals.

## CHAPTER V

## PRIMARY HEALTH CENTRES

13. The coverage of 80,000 population by a Primary Health Centre is too heavy. In practice the Primary Health Centre does not serve more than 30 to 40 thousand people living within a radius of two to four miles of the main centre and sub-centres. It is, therefore, suggested that by the year 1976 at least one of the sub-centre in the Block should be raised to the status of Primary Health Centre.

14. Medical Officers of the Primary Health Centres should be oriented in public health and training facilities for the tpye of staff needed should be augmented.

15. The lady doctor for the Family Planning work at the Primary Health Centre should always be in addition to the lady medical officer on health side.

16. In appropriate cases, wherever the need exists, the number of beds in the Primary Health Centre may be increased from 6 to 10.

17. Full use of specialists visiting Primary Health Centres at regular intervals should be made and the Primary Health Centre doctor should keep such cases needing specialist treatment in readiness. Ambulance service should also be fully made use of to make the referral service successful.

18. The laboratory technician with a microscope provided at the Primary Health Centre under National Malaria Eradication Programme should be utilised to undertake simple tests like stool, urine, blood etc. of patients attending the Primary Health Centre.

19. The allopathic dispensaries functioning within the jurisdiction of the Primary Health Centre should be continued as hitherto and be treated as sub-centres to the main Primary Health Centre. In Blocks which do not have a Primary Health Centre, one of the existing allopathic dispensaries should be upgraded to the status of the Primary Health Centre and other dispensaries would function as sub-centres.

20. As an incentive to doctors to work in rural areas the provision of residential accommodation, grant of rural allowance and posting by rotation in rural and urban centres should be made a must. Efforts should also be made to improve working conditions at the Primary Health Centres to form a unified cadre of doctors in the State Government services and to provide regular training facilities to the doctors of the Primary Health Centres preferably at the district hospital.

## CHAPTER VI

## OUT-PATIENT DEPARTMENT AND EMERGENCY SERVICES

21. The Out-patient Department should be planned to provide services for one per cent of the population of the area to be catered for. It should be located at suitable distance from the indoor wards, and be connected by a corridor to laboratory, X-ray and other diagnostic rooms. In smaller hospitals and others where sufficient accommodation is not available, the O.P.D. may be located on the ground floor and indoor wards on upper floors.

22. The Out-patient Department should be sufficiently large so as to avoid congestion. There should be a reception-cum-information counter situated at a prominent and easily accessible place in the Central Registration Hall.

23. In order to help illiterate people coming from rural areas, the Out-patient Department cards issued to patients should be in different colours and if possible the symbols of speciality like Eye, Ear, Nose, X-ray may be printed prominently to identify concerned clinical Department.

24. There should be arrangements, in the vicinity of the hospital, for stay of patients and their attendants seeking admission to hospitals for diagnostic purposes, either free or at nominal charges. Such facilities can be easily provided by charity minded individuals or organisations. Provision of a cafetaria for patients and their attendants should also be made.

25. While planning out-patient Department provision for the treatment of at least 10% of the total number of patients expected to attend the out-patient Department should be made for emergency cases.

26. An emergency ward should be added to every hospital where a patient needing emergency service should be admitted at once and kept for 24 hours before being transferred to a regular concerned ward.

27. Ambulance service to bring patients needing emergent service should be provided at the Out-patient Department.

28. There should be separate doctors and other staff for the Emergency Department and they should work round the clock. Services of other specialists should be available at call. The services of a pathologist and radiologist should immediately be available to the Emergency Ward. In teaching hospitals there should be a separate set-up of these services.

29. The budget for drugs, medicines, instruments, equipment and dressings for the Emergency Department should be kept separate and be at least double of the needs of other corresponding Departments. Buffer stocks of drugs should be kept with the Medical Superintendent to meet the needs of the Emergency Department.

## CHAPTER VII

## SPECIAL HOSPITALS

30. To remove disparity in the distribution of special hospitals, preference should be given to the backward States in the matter of establishment of new special hospitals and provision of additional beds in existing institutions.

31. Treatment in special hospitals should be restricted to referred cases and cases which need specialised attention of the highest order.

*Tuberculoss.*

32. There should be no district without having at least one T.B. Clinic with a minimum of 100 beds and those having less than 100 beds should be raised to 100 beds by 1976.

33. Domiciliary treatment of T.B. should be intensified. Admission of patients in T.B. hospitals should be confined to (1) medical emergencies, (2) surgery cases, (3) sputum positive cases, and (4) cases not responding to domiciliary treatment.

34. District Tuberculosis Clinics/hospitals should run in close liaison with Taluq/Tehsil and District hospitals and T.B. Centres should be in overall control of the Superintendent of the Tehsil/Taluq/District Hospital.

35. Regular supply of anti-tuberculosis drugs to the patients attending the Tuberculosis clinics should be ensured and agency of the basic health worker working at the Primary Health Centres should be utilised to make available drugs to the patients domiciliarily.

36. Before the mother is discharged from the hospital the baby should be B.C.G. vaccinated. For this adequate provision of freeze-dried vaccine should be made in maternity hospitals.

*Mental Hospitals.*

37. By 1976 the bed strength for mental cases should be raised to 1 : 15,000. Teaching hospitals should have a psychiatric clinic (Day Hospital) with 30 to 40 beds. District hospital should have a psychiatric clinic with a minimum of 5 beds. Regional mental hospitals should be set up for a group of 8 to 10 contiguous districts. Some of the existing mental hospitals should be raised to the status of regional hospitals by increasing their strength to 300—400 beds. Initially mental cases should be treated in psychiatric clinics before being referred to teaching hospitals or to the mental hospitals.

38. The existing medical colleges should be expanded to train adequate number of doctors in mental sciences and teaching hospitals be utilised for training para-medical personnel.

39. The Indian Lunacy Act should be replaced by a suitable Mental Health Legislation.

*Maternity Hospitals.*

40. The maternity beds recommended by the Group, namely, 70 beds in Teaching Hospitals, 35 in District Hospitals, 10 in Tehsil Hospitals and 4 at each Primary Health Centre have been made on the assumption that only such cases that need hospitalisation, would be admitted in hospitals and ordinary deliveries should be done in the homes of the patients by qualified midwives.

41. Facilities and equipment for applying advance practice in the field of obstetrics and for isolating septic from clean cases in labour and for special nursing care to treat cases of toxaemia, tetanus, peurperal psychosis etc., which are now very much lacking or missing, should be made up.

42. Training facilities for Midwives, Auxiliary Nurse Midwives and for Dais should be made at the District Hospital. The Dais should also be paid similar stipend during the course of training as to Auxiliary Nurse Midwives.

*Paediatric Hospitals.*

43. There should be one Paediatric hospital in each State attached to one of the medical colleges. This hospital should have, in addition to general section, a number of specialised sections such as Paediatrics Haemotology, Endocrinology, Neurology, Surgical Paediatrics, Orthopaedic Paediatric and Dental Services.

*Cancer Hospitals.*

44. The existing four Cancer Hospitals at Bombay, Madras, Calcutta and Delhi should be upgraded to regional centres and operational areas attached to each of them. In addition, two more regional centres be opened one in Madhya Pradesh attached to Bhopal Medical College and another at Varanasi, or at some place in the State of Bihar.

*Ophthalmic Hospitals.*

45. Training of specialists in Ophthalmology and provision of more beds to reach the norms of advanced countries namely, one eye specialist and one ophthalmic bed needed for 10,000 and 5,000 population respectively is an ideal, which should be achieved. The work done by voluntary agencies in certain States in the field of eye relief is appreciated and suitable action be initiated in other places also.

46. Mobile ophthalmic units, manned by the specialists of the district hospital, should hold periodic eye clinics and camps at Primary Hospital Centres. Periodic check up of eye diseases should be included as an important item in the School Health Programme.

*Treatment for Leprosy Cases.*

47. Excellent work done for the control of leprosy by voluntary agencies and International Organisations is appreciated and they need further encouragement and financial help.

48. Special emphasis should be laid on the detection of leprosy in the School Health Programme for this age group.

49. Leprosy programme should be integrated with the Primary Health Centre and sufficient stocks of sulphones should be maintained at the Primary Health Centres who should obtain the services of a specialist at S.E.T. Centre wherever required.

*Infectious Diseases Hospitals.*

50. The health authorities should take serious notice of the deplorable state of affairs obtaining in Infectious Diseases hospitals. State Governments should take over the responsibility of running Infectious Diseases Hospitals, in highly endemic areas. District Hospitals should have isolation beds where communicable diseases except smallpox be treated.

51. Cities with a population of 5 lakhs or more should have an Infectious Diseases Hospital. Primary Health Centres should provide temporary shelter to Infectious Diseases patients.

*Dental Treatment.*

52. Fully equipped and staffed dental clinics should be set up at the District hospitals where they do not already exist. Besides the dental surgeon, the Dental Clinic should have a dental hygienist and dental mechanic. Dental care of school children should be included in the School Health Service.

*Convalescent Homes and Rehabilitation Centres.*

53. Convalescent Homes should be set up in the vicinity of teaching hospitals for chronic and incurable patients.

54. Facilities for rehabilitation, consisting of Medical Physical therapy, Occupational therapy, Speech Therapy and Prosthetic Sections should be set up at each teaching hospital. At least one physiotherapist should be appointed at the District Hospital.

## CHAPTER VIII

## INTEGRATION OF MEDICAL AND HEALTH SERVICES

55. It is suggested that curative and preventive services, Family Planning and Maternity and Child Health work should be integrated from the highest to the lowest operational level under a single administrative authority.

56. There should be one single officer in the District responsible for curative, preventive and family planning work and he be designated as Chief Medical Officer, in place of District Medical Officer, He should have two deputies to assist him—(1) Deputy Chief Medical Officer (Health) and Deputy Chief Medical Officer (Family Planning & Maternity). The present post of Family Planning Officer may be abolished. The Chief Medical Officer will be ex-officio Medical Superintendent of the District Hospital and all other medical institutions in the District will be under his charge. All Civil Surgeons should be given three months' orientation training in public health so that they can work effectively as Chief Medical and Health Officer.

57. Medical Officer-in-charge of the Primary Health Centre should be put in full administrative control of the entire health staff and be designated as the drawing and disbursing authority with powers to grant leave to his staff.

## CHAPTER IX

## STAFFING PATTERN AND REQUIREMENTS OF EQUIPMENT

58. The standards for hospital appliances, equipment and instruments evolved by the Indian Standards Institute should be strictly followed and no departure from these standards should be permitted.

59. Staffing pattern for a Hospital with 50, 100, 200 and 300 beds have been recommended.

60. Private practice should be permitted to all Government doctors except in the case of doctors working on the health side, doctors working on laboratory and diagnostic services, doctors serving in teaching hospitals, Civil Surgeons of the Districts and Medical Superintendent of Hospitals and doctors working on research projects. Adequate non-practising allowance should be paid to the incumbents of these posts.

61. State Governments in the case of medical men working in Directorates of Health and Medical Services and Central Government in case of medical men working in the Directorate General of Health Services should take their own decision in regard to payment of non-practising allowance depending on their resources and service conditions.

62. Doctors working in difficult and remote areas should be granted a special allowance during the period of their posting at such places.

63. System of honoraries should be continued in places where whole-time Government doctors and specialists are either not available or Government cannot afford to engage them for want of funds. The services of eminent persons who are known to be devoted to their profession and are prepared to work as honoraries, should be utilised. The honoraries should be subjected to same discipline as whole-time doctors. Their terms for recruitment and conditions of working like hours of duty etc. should be clearly laid down.

## CHAPTER X

## LABORATORY AND DIAGNOSTIC SERVICES

64. Laboratory services in India vary from State to State and within the States at all levels. Efforts to strengthen the services at district and peripheral levels should be made. Any potential savings by way of space, equipment, personnel and funds need to be overlooked.

65. In teaching hospitals the set up of laboratory services should include Clinical Biochemistry, including routine examinations, Haematology including Blood Bank, Histopathology, Clinical Microbiology including Stool CSF, Pleural fluids, Serology and Surgical

Pathology, Autopsy including Cytology. Each of these sections should be under the charge of a competent and well trained officer with a complement of technical staff, but the responsibility for technical standards should rest with the parent department of the College.

66. The set up at the District Hospital may include Haemotology including Blood Bank, Clinical Bio-chemistry, Urine and Stool, C.S.F. Serology etc. and Microbiology. If resources do not permit, arrangements for such service may be made with the department of Pathology and Microbiology in a neighbouring teaching hospital. Laboratories at the District level should have 4 laboratory technicians, 2 laboratory attendants, a sweeper and a clerk on their staff. At the tehsil/taluq level there should be one laboratory technician and one of the doctors should, in addition to his other duties, look after the laboratory. This doctor should be deputed to a District Hospital for about 6 weeks' training if necessary.

67. Non-medical graduates in Bio-chemistry or Micro-biology may be employed to do laboratory work.

68. The departmental heads in a laboratory in large hospitals should be fully qualified medical man who in addition to general training in pathology should have sufficient postgraduate experience in the speciality of the department.

69. The number of technicians in a laboratory should be fixed on the basis of 1,000 tests per fully trained technician per month as the maximum.

70. The X-ray Department should be so sited as to be readily accessible to in-patient wards, the out-patient department and the accident and emergency department.

71. Teaching hospitals should have four X-ray plants one of 300 to 500 M.A.; the second of 100 M.A.; and third a portable plant of 35—50 M.A. and the fourth a Dental X-ray Plant, besides plants or machines for Diathermy and lamps for ultraviolet and infra red. In large and busy hospitals there may be an additional miniature X-ray set.

72. In district hospitals with 200 or more beds there should be one 200 M.A. Unit, one 100 M.A. and one 35—50 M.A. portable unit and one for dental care, besides having lamps for ultraviolet and infra red. The tehsil/taluq hospitals should have one X-ray plant of 50 M.A. and lamps for ultraviolet and infra red.

73. Radiotherapy should be confined to a few selected hospitals and teaching hospitals.

74. Radioisotopes should be limited to teaching hospitals only.

## CHAPTER XI

## ANCILLARY SERVICES

75. Supply of linen in a hospital should be the responsibility of an officer of the status of Matron or Assistant Matron who should be in-charge of the service. Central linen room is recommended.

76. Clothing supplied to patients should be simple, economical, durable, clean and suited to the climatic requirements of the place.

77. Mechanical laundry for linen in hospitals where the quantity of linen is not less than 45,000 pieces per week is considered economical, quick and involving the minimum wear and tear and pilferage. For this purpose smaller hospitals may be grouped. Hospitals in the same city may combine to have central mechanical washing. Small domestic washing machines may be used in District and Taluq hospitals.

78. Hospitals with more than 200 beds should have a whole-time dietician. In others one of the sisters should be trained in basic knowledge of diets and put incharge of dietary and food services. Trolleys insulated with saw dust and stainless steel thermo jars with a tap should be used for carrying food. Kitchen should be preferably on the ground floor and be neat, clean and spacious. Stainless utensils and gas or smokless chullah should be used.

79. Central Sterilisation Supply Department should be organised in all hospitals with bed strength 200 or more. District Hospitals should supply sterilised materials including dressings to hospitals and dispensaries attached to them. Blankets must be thoroughly sterilised. The C. S. S. D. should be on the ground floor near the operation theatre and connected with telephone.

80. Non-store holding purchases organisation should be set up in all States to coordinate the demands of medical stores and drugs from various hospitals. Rate contracts should be settled with suppliers/manufacturers and supplies received from them directly, in larger packings and sent to the District Hospitals from where the drugs and equipment be supplied to Tehsil/Taluq Hospitals and Primary Health Centres in the district. Medicines should be stocked for a period of six months. Quality control organisation should ensure quality of drugs received from suppliers and supplied to hospitals.

81. Hospital pharmacies should be established in all teaching hospitals and tablets, injections, fluids and other common mixtures and ointments should be manufactured there.

82. To check over-medication, there should be a Committee consisting of specialists, who should meet periodically, examine cases of misuse and excessive use and prescription of medicine. A Prescribers' Journal should be started by the Government of India to begin with.

83. The basis of treatment in hospitals should be the National Formulary and the treatment should be prescribed by Pharmacopoeia or generalic name and use of branded and patent medicines should be discouraged.

84. In addition to Hospital Library, there should be a Patients' Library having light reading and pictorial magazines, journals and periodicals, as well as literature on dietary, nutrition and health education material. At the District Hospitals there should be a fairly good library and doctors working in other hospitals of the district

Health Centres. A system of circulating medical and professional journals which are rare and published in foreign countries should be established. If possible extracts of important material may be got cyclostyled and circulated.

85. One or more than one workshop, depending on the size of the State to repair machines and hospital equipments should be set up. Technicians attached to these workshops should periodically visit hospitals to check up machines and repair them on the spot or bring them to workshop. Hospital authorities should send periodically a certificate to the Health Directorate that all machines and plants in the hospital are in working order and those out of order have been sent for repairs. Hospitals with bed strength of 200 or more beds should have a repairing cell consisting of one Blacksmith, one painter, one carpenter and one Electrician.

86. In Teaching Hospitals providing post-graduate medical studies records should be kept in a precise manner with indexing and preserved in bound volumes or in microfilms, where felt necessary. The cases to be recorded should be marked by the doctors. District Hospitals should adopt a simple method of record keeping. Record should be maintained on the pattern of International Classification of Diseases. In teaching hospitals there should be one Medical Record Officer, 2 Medical Record Technicians and other complementary clerical staff, while in District Hospital one Medical Record Technician and one of the Medical Officers in the hospital should be made responsible for record keeping. More teaching centres should be opened to train Medical Record Technicians.

87. All hospitals with 200 or more beds should have a blood bank. Doctors should persuade friends and relatives of patients to donate blood. Blood Banks in Teaching Hospitals should supply blood to hospitals attached to them. These hospitals should have refrigeration facilities and dust-free accommodation for storage and equipment for blood transfusion. Blood Banks should be equipped with a utility van which should serve as a multipurpose vehicle for transporting donors, blood donation teams and social workers, and when free for propaganda purposes and for blood collection. A small committee of experts to lay down standards for the collection and storage of blood and for techniques of grouping and matching should be appointed.

88. Designs of mortuaries for different sizes of hospitals have been suggested. Cold storage arrangements should be available in district and teaching hospitals. Cold room chambers should keep a temperature of 4°C. Provision of ice in case of electricity or compressor failure should be made. The floor should be stain-proof and easily washable. Proper record for incoming and outgoing dead bodies should be maintained and whenever required the services of photographic and X-ray units should be available. Ground floor is the best location for a Morgue. It should have a suitable exit leading to a loading area concealed from the view of patients, and the public. On an average there is one death per hospital bed per year and facilities for the custody of bodies and post-mortems should be provided accordingly.

89. All out effort to inform the relatives, friends or persons who may be visiting the patient during his illness, about the death of the patient should be made before declaring a dead body as unclaimed. Unclaimed bodies may be sent to teaching hospitals for teaching and research purposes. Post-mortem need be done on legal and police cases or for pathological purposes for teaching and research. Delay in handing over the dead body on this account should be minimised to the maximum extent possible.

## CHAPTER XII

## SANITATION AND SECURITY ARRANGEMENTS, PUBLIC RELATIONS AND HEALTH EDUCATION

90. Full fleged House-keeping Cell with a qualified Sanitary Inspector, Havaldars, Sweepers. Scavangers and Gardeners has been suggested.

91. Three to four per cent of capital cost should be provided for the maintenance and repairs of hospital buildings. Restrictions imposed on account of emergency or other matters in the allotment of funds for repairs should not apply to hospitals.

92. Hospitals should have arrangements to maintain a daily supply of 50 gallons of water per bed. Drinking water in the form of water coolers should be provided in verandahs and out-patient department at suitable location. Private donations should be solicited for providing water coolers.

93. One latrine seat for every six beds should be provided in hospitals. Wherever piped water supply is available, all the surface latrines should be converted into water-borne latrines attached to the sewerage system or a septic tank. At other places water-borne non-flushing latrines should be provided with a septic tank.

94. Cooks, food servers, attendants etc. who come in contact with food should be screened and their health records maintained.

95. Regular physical verification of stores in all departments will reduce pilferages. Architects should pay adequate attention to consideration of security in the designing of hospitals.

96. A good and courteous behaviour on the part of hospital workers and doctors and the receptiveness by patients and their attendants will constitute good public relations. This cannot be strictly enforced but are to be realised.

97. In teaching hospitals, a Public Relations Officer should be appointed to look into the complaints and difficulties, bring them to the notice of the concerned officer and secure redress.

98. In the Casualty and Emergency Departments the doctor should be particularly polite and sympathetic and should spare no efforts to console the relatives and attendants of the patient. A brochure containing the "Dos" and "Don'ts" i.e. acts which he is not expected to do, should be available for the benefit of the in-patients.

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99. Appointment of Hospital Advisory Committees in teaching and district hospitals is suggested. These Committees should take lively interest in the affairs of the hospital and the staff and suggest measures to add to the comforts of patients, build better relations and secure hospital support of voluntary institutions, charitably disposed persons and social workers.

100. Hospitals form an excellent nucleus for imparting health education. In teaching hospitals there should be a qualified Health Educator with medical or social science training. He should be assisted by medico-social workers trained in health education. The set-up should include a projectionist to operate the audio-visual equipment and artist-cum-photographer for preparing education aids. District hospitals should be provided with medico-social workers. The Medical Officer-in-charge of the Primary Health Centre should be responsible for health education in the Block and he should utilise the Block Extension Educator in planning education material for the Primary Health Centre.

101. The equipment for health education work for hospitals of various sizes have been suggested.

102. Adequate display of health education material, books, pamphlets and arrangements for display of short films may be made in the Out-patient Departments in hospitals.

## CHAPTER XIII

## AUGMENTATION OF RESOURCES

103. In order to augment financial resources the following measures are suggested:—

(i) Levy of a charge of 10 paise per attendance in the out-patient departments of hospitals and dispensaries.

(ii) A minimum charge of 25 paise per day of hospital stay.

(iii) Payment of diet-charges by patients who have a monthly income of Rs. 200/- or above.

(iv) Setting up of pay clinics in all major hospitals in towns with a population of five lakhs.

(v) Provision of paying beds in district and teaching hospitals, where these do not exist.

(vi) Extension of Central Government Health Scheme and Employees State Insurance Scheme.

(vii) Starting of Health Insurance Scheme in selected areas or among selected groups of population.

(viii) Contribution from the L.I.C., and

(ix) Health Cess.

104. The revenues, raised by measures suggested above, should not go to the public exchequer but made available to the hospital concerned either directly or through an equivalent increase in its budget. Donations for putting up of hospital buildings, setting up of beds in them and for running hospitals should be encouraged.

105. Central Government Health Scheme and Employees State Insurance Scheme should be extended to uncovered population and areas. Health Insurance Scheme may be tried on pilot basis in selected areas, both among the urban and rural populations. State Governments should also initiate health insurance schemes for their employees by some banks and other organisations should be discouraged and these organisations should also start their own health insurance schemes.

106. The Life Insurance Corporation should also join hands with health agencies in their endeavour and be asked to set apart a prescribed proportion of its profits to finance the Health Insurance Scheme.

107. The levy of Health Cess as imposed in the State of Mysore may be considered by other States also as a source for raising revenues.

## CHAPTER XIV

## FAMILY PLANNING PROGRAMME IN HOSPITALS

108. All medical men, general practitioners, specialists paediatricians and others should be made to take interest in Family Planning work, and they be made aware of the urgency of the population problems, modern methods and latest research in Family Planning.

109. Family Planning Committees should be set up in all hospitals to plan and review the progress made in regard to Family Planning.

110. Family Planning services should be provided in all hospitals through Family Planning Welfare Centres and no post should be left unfilled. In teaching hospitals the Family Planning Welfare Centres should work as a part of the Department of Gynaecology and Obstetrics. These centres should also organise "Well-baby" Clinics. Occasions when women come for fitness for loop insertion or some other family planning advice, should be utilised for detection of abnormalities/disease and wherever possible proper advice given for treatment.

111. All hospitals should have facilities for sterilisation.

112. Doctors and para-medical staff who take active interest in Family Planning, a remark to this effect may be made in his character rolls. For outstanding work in Family Planning the staff may be allowed double increments in pay.

113. As for educational programmes, the Family Planning Welfare Centre should be situated at advantage point, all doctors wherever possible, should advise patients for Family Planning as part of patient's care; nurses during the patient's stay in hospitals, can educate and motivate them for Family Planning. At the time when patient is discharged from hospital, eligible patients may be clearly told the type of Family Planning advice needed and the place to be visited by them.

114. Orientation courses in Family Planning for doctors and nurses should be organised in teaching hospitals. Staff of Regional Family Planning Centres may also be involved. Family Planning should be made a subject of study in medical colleges as part of undergraduate curriculum.

## CHAPTER XV

## CENTRAL GOVERNMENT HEALTH SCHEME

115. High priority should be given to the construction programme of dispensaries. The action on proposals (i) to have a separate Hos-pital for Central Government Health Scheme beneficiaries in Delhi and (ii) to set up one poly clinic for every five dispensaries to pro-de laboratory, diagnostic and specialist services should be expedit-

116. Much of the time spent by the patients in the dispensaries ll be reduced if the Pharmacists' counter is enlarged to accommo-ate both the compounders dispensing special and ordinary medi-nes and separate timings be fixed for old and new cases and these mings are strictly enforced excepting for emergency cases.

117. Direct consultation with the specialists by beneficiaries awing Rs. 1,200/- or more per month is not justified on medical ounds and as such this distinction should be removed.

118. A Central Pharmacy be established in the medical store or the manufacture of certain drugs.

119. The CGHS formulary of medicines is quite exhaustive. The practice of giving medicines outside the formulary and in excessive uantity should be voluntarily discontinued and doctors should be onsidered as the best judge to prescribe the medicines.

120. A committee of experts should be set up to go into this question and suggest measures for removing the disparity in expen-iture in various dispensaries.

121. The use of proprietory names should be progressively elimi-nated and the drugs should bear generic names. Stricter internal checks should be enforced to eliminate pilferage. To prevent impersonation separate indentity cards for every beneficiary containing his/her photograph should be issued.

122. The rates of contributions has remained the same since the inception of the scheme in 1954 inspite of sharp rise in expenditure. Contributions made by the beneficiaries to the C.G.H.S. should be raised in the same proportion as the rise in total emoluments to the beneficiaries since the rates of contribution were last fixed.

123. Since the C.G.H.S., dispensaries are providing comprehensive health care, they should be redesignated as "Health Centres for Central Government Employees".

## CHAPTER XVI

## DIFFICULT AREAS

124. The referral functions entrusted to District Hospitals generally, should, in case of Difficult Areas, be made the responsibility of the Sub-Divisional hospitals (tehsil, taluq or another suitable administrative sub-division.) These hospitals may have more than 50 beds and in addition to surgical, medical, gynaecological and obstetrics specialities should have other specialities such as ophthalmology, dermatology, E.N.T. venereal diseases and dentistr

125. The number of Primary Health Centres should be raised to two in a Block. The frequency of visits of health workers should be raised gradually to one in a week. There should be a provision of 10 beds and in addition an isolated hut.

126. Within areas of Primary Health Centres suitable sub-centre to be known as 'key villages' should be selected in such a manner that one or another of the key villages lie within half a day's march from the fartherest village. Doctors from the P.H.C. should visit tre village, examine patients and dispense medicine, once in a week, on days extensively publicised.

127. First aid kits should be kept in village and school teache or a Surpanch or one of the Panchs should be given short trainin course to provide first aid services to villages.

128. Doctors working in difficult areas should be given higher rural allowance than obtaining in other rural areas.

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